

**APPENDIX E8: HERITAGE AND PALEONTOLOGICAL ASSESSMENT**

**HERITAGE SURVEY OF THE PROPOSED LEPHALALE  
SOLAR PROJECT, LEPHALALE LOCAL  
MUNICIPALITY WATERBERG DISTRICT, LIMPOPO  
PROVINCE**

**FOR K2021699383 (SOUTH AFRICA) (PTY) LTD  
(REG NO 2021/699383/07)**

**DATE: 5 JUNE 2021**

**By Gavin Anderson**

**Umlando: Archaeological Surveys and Heritage  
Management**

**PO Box 102532, Meerensee, 3901**

**Phone: 035-7531785**

**Cell: 0836585362**



GCS Ref:21-0037

Zutari Ref: 1001395-G040-REP-NN-0003

## TABLE OF CONTENT

INTRODUCTION .....	4
<b>NATIONAL HERITAGE RESOURCES ACT OF 1999</b> .....	10
METHOD .....	12
Defining significance.....	13
DESKTOP STUDY .....	16
PREVIOUS ACHAEOLOGICAL & HERITAGE SURVEYS.....	16
PALAEONTOLOGICAL DESKTOP STUDY .....	20
FIELD SURVEY.....	21
MANAGEMENT PLAN .....	22
CONCLUSION.....	22
REFERENCES .....	23
<b>EXPERIENCE OF THE HERITAGE CONSULTANT</b> .....	25
<b>DECLARATION OF INDEPENDENCE</b> .....	25
APPENDIX A .....	26
AIA FIELD SURVEY.....	26
APPENDIX B .....	17
PIA DESKTOP STUDY .....	17

## TABLE OF FIGURES

FIG. 1 GENERAL LOCATION OF THE STUDY AREA.....	6
FIG. 2: AERIAL OVERVIEW OF THE STUDY AREA .....	7
FIG. 3: TOPOGRAPHICAL MAP OF THE STUDY AREA .....	8
FIG. 4: SCENIC VIEWS OF THE STUDY AREA .....	9
TABLE 1: SAHRA GRADINGS FOR HERITAGE SITES .....	15
FIG. 5: KNOWN HERITAGE SITES IN THE AREA .....	17
FIG. 6: SURVEYOR GENERAL MAP OF APPELVLAKE (1908) .....	18
FIG. 7: TOPGRAPHICAL MAP OF APPELVLAKE (1969).....	19
FIG. 8: PALAEONTOLOGICAL SENSITIVITY OF THE STUDY AREA .....	20

## Abbreviations

HP	Historical Period
IIA	Indeterminate Iron Age
LIA	Late Iron Age
EIA	Early Iron Age
ISA	Indeterminate Stone Age
ESA	Early Stone Age
MSA	Middle Stone Age
LSA	Late Stone Age
HIA	Heritage Impact Assessment
PIA	Palaeontological Impact Assessment



## INTRODUCTION

The Lephalale Solar facility is being developed with a maximum installed capacity of 100 MWp (DC) which produces 80 MWac (AC) of electricity. The facility will be in operation for at least 20 years. It is important to note that the final specifications of the project components will be determined during the detailed engineering phase which would commence after receipt of an Environmental Authority from the competent authority.

The proposed project would entail the development of a Photovoltaic (PV) solar power plant up to 256 hectares in extent with a generation capacity of approximately 100MWp (80 MWac) covering the entire feasible area. The final capacity would be dependent on ongoing development of photovoltaic technologies, as more efficient modules may become available by the time that the project would begin construction. The development footprint is approximately 256 hectares; however the generation capacity may vary based on the availability of more efficient PV panels.

The solar facility will consist of:

- Solar PV panels,
- Steel support structure and tracker system on concrete foundations,
- Inverter stations as part of the PV field,
- Transformers, switchgear and related equipment as part of the Substations, and
- Internal roads.

The project associated infrastructure will consist of:

- Substation complex (33/132 kV) including control rooms and grid control yards,
- Existing Grootegeluk substation upgrades,
- 132 kV Transmission line and transmission towers,

- Battery Energy Storage System (BESS),
- Operations and maintenance buildings,
- Water provision,
- Access roads,
- Internal roads,
- Perimeter fencing,
- Access control gate,
- Security building,
- Temporary concrete batching facility,
- Temporary offices for the construction period,
- Construction yard, and
- Laydown area

Umlando was requested to undertake the HIA for the development. Mr Frans Roodt undertook the field survey on behalf of Umlando (see Appendix A for the original report).

FIG. 1 GENERAL LOCATION OF THE STUDY AREA





FIG. 2: AERIAL OVERVIEW OF THE STUDY AREA



FIG. 3: TOPOGRAPHICAL MAP OF THE STUDY AREA

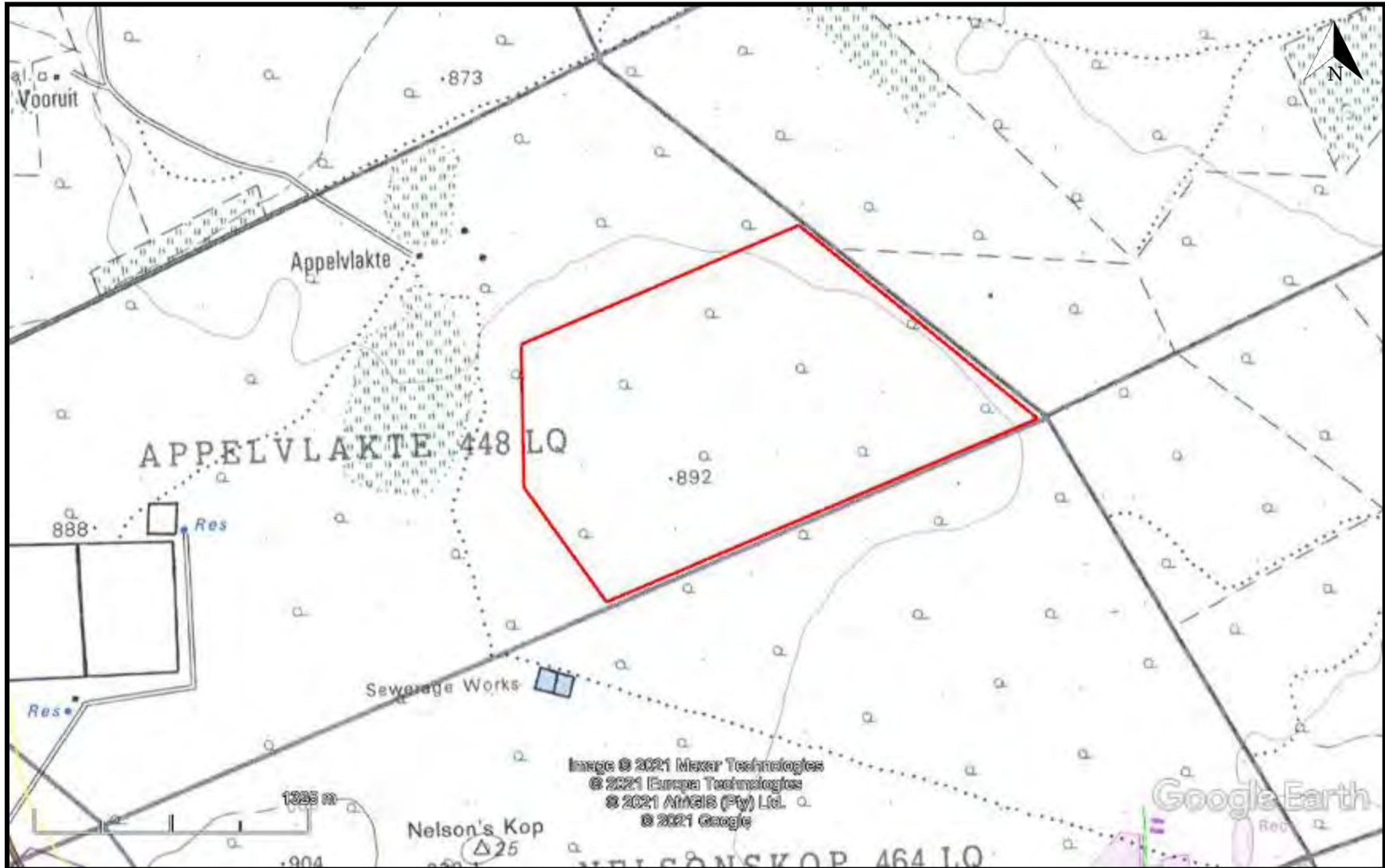




FIG. 4: SCENIC VIEWS OF THE STUDY AREA





## NATIONAL HERITAGE RESOURCES ACT OF 1999

The National Heritage Resources Act of 1999 (pp 12-14) protects a variety of heritage resources. These resources are defined as follows:

1. “For the purposes of this Act, those heritage resources of South Africa which are of cultural significance or other special value for the present community and for future generations must be considered part of the national estate and fall within the sphere of operations of heritage resources authorities.
2. Without limiting the generality of subsection (1), the national estate may include—
  - 2.1. Places, buildings, structures and equipment of cultural significance;
  - 2.2. Places to which oral traditions are attached or which are associated with living heritage;
  - 2.3. Historical settlements and townscapes;
  - 2.4. Landscapes and natural features of cultural significance;
  - 2.5. Geological sites of scientific or cultural importance;
  - 2.6. Archaeological and palaeontological sites;
  - 2.7. Graves and burial grounds, including—
    - 2.7.1. Ancestral graves;
    - 2.7.2. Royal graves and graves of traditional leaders;
    - 2.7.3. Graves of victims of conflict;
    - 2.7.4. Graves of individuals designated by the Minister by notice in the Gazette;
    - 2.7.5. Historical graves and cemeteries; and
    - 2.7.6. Other human remains which are not covered in terms of the Human Tissue Act, 1983 (Act No. 65 of 1983);
3. Sites of significance relating to the history of slavery in South Africa;
  - 3.1. Movable objects, including—

4. Objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects and material, meteorites and rare geological specimens;
  - 4.1. Objects to which oral traditions are attached or which are associated with living heritage;
  - 4.2. Ethnographic art and objects;
  - 4.3. Military objects;
  - 4.4. objects of decorative or fine art;
  - 4.5. Objects of scientific or technological interest; and
  - 4.6. books, records, documents, photographic positives and negatives, graphic, film or video material or sound recordings, excluding those that are public records as defined in section 1(xiv) of the National Archives of South Africa Act, 1996 (Act No. 43 of 1996).
5. Without limiting the generality of subsections (1) and (2), a place or object is to be considered part of the national estate if it has cultural significance or other special value because of—
  - 5.1. Its importance in the community, or pattern of South Africa's history;
  - 5.2. Its possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage;
  - 5.3. Its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;
  - 5.4. Its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects;
  - 5.5. Its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group;
  - 5.6. Its importance in demonstrating a high degree of creative or technical achievement at a particular period;
  - 5.7. Its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons;
  - 5.8. Its strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa; and



5.9. sites of significance relating to the history of slavery in South Africa”

## METHOD

The method for Heritage assessment consists of several steps.

The first step forms part of the desktop assessment. Here we would consult the database that has been collated by Umlando. These database contain archaeological site locations and basic information from several provinces (information from Umlando surveys and some colleagues), most of the national and provincial monuments and battlefields in Southern Africa (<http://www.vuvuzela.com/googleearth/monuments.html>) and cemeteries in southern Africa (information supplied by the Genealogical Society of Southern Africa). We use 1<sup>st</sup> and 2<sup>nd</sup> edition 1:50 000 topographical and 1937 aerial photographs where available, to assist in general location and dating of buildings and/or graves. The database is in Google Earth format and thus used as a quick reference when undertaking desktop studies. Where required we would consult with a local data recording centre, however these tend to be fragmented between different institutions and areas and thus difficult to access at times. We also consult with an historical architect, palaeontologist, and an historian where necessary.

The survey results will define the significance of each recorded site, as well as a management plan.

All sites are grouped according to low, medium, and high significance for the purpose of this report. Sites of low significance have no diagnostic artefacts or features. Sites of medium significance have diagnostic artefacts or features and these sites tend to be sampled. Sampling includes the collection of artefacts for future analysis. All diagnostic pottery, such as rims, lips, and decorated sherds are sampled, while bone, stone, and shell are mostly noted. Sampling usually

occurs on most sites. Sites of high significance are excavated and/or extensively sampled. Those sites that are extensively sampled have high research potential, yet poor preservation of features.

### **Defining significance**

Heritage sites vary according to significance and several different criteria relate to each type of site. However, there are several criteria that allow for a general significance rating of archaeological sites.

These criteria are:

#### **1. State of preservation of:**

- 1.1. Organic remains:
  - 1.1.1. Faunal
  - 1.1.2. Botanical
- 1.2. Rock art
- 1.3. Walling
- 1.4. Presence of a cultural deposit
- 1.5. Features:
  - 1.5.1. Ash Features
  - 1.5.2. Graves
  - 1.5.3. Middens
  - 1.5.4. Cattle byres
  - 1.5.5. Bedding and ash complexes

#### **2. Spatial arrangements:**

- 2.1. Internal housing arrangements
- 2.2. Intra-site settlement patterns
- 2.3. Inter-site settlement patterns

#### **3. Features of the site:**

- 3.1. Are there any unusual, unique or rare artefacts or images at the site?

3.2. Is it a type site?

3.3. Does the site have a very good example of a specific time period, feature, or artefact?

**4. Research:**

4.1. Providing information on current research projects

4.2. Salvaging information for potential future research projects

**5. Inter- and intra-site variability**

5.1. Can this particular site yield information regarding intra-site variability, i.e. spatial relationships between various features and artefacts?

5.2. Can this particular site yield information about a community's social relationships within itself, or between other communities?

**6. Archaeological Experience:**

6.1. The personal experience and expertise of the CRM practitioner should not be ignored. Experience can indicate sites that have potentially significant aspects, but need to be tested prior to any conclusions.

**7. Educational:**

7.1. Does the site have the potential to be used as an educational instrument?

7.2. Does the site have the potential to become a tourist attraction?

7.3. The educational value of a site can only be fully determined after initial test-pit excavations and/or full excavations.

**8. Other Heritage Significance:**

8.1. Palaeontological sites

8.2. Historical buildings

8.3. Battlefields and general Anglo-Zulu and Anglo-Boer sites

8.4. Graves and/or community cemeteries

8.5. Living Heritage Sites

8.6. Cultural Landscapes, that includes old trees, hills, mountains, rivers, etc related to cultural or historical experiences.

The more a site can fulfill the above criteria, the more significant it becomes. Test-pit excavations are used to test the full potential of an archaeological deposit. This occurs in Phase 2. These test-pit excavations may require further excavations if the site is of significance (Phase 3). Sites may also be mapped and/or have artefacts sampled as a form of mitigation. Sampling normally occurs when the artefacts may be good examples of their type, but are not in a primary archaeological context. Mapping records the spatial relationship between features and artefacts.

The above significance ratings allow one to grade the site according to SAHRA's grading scale. This is summarised in Table 1.

**TABLE 1: SAHRA GRADINGS FOR HERITAGE SITES**

<b>SITE SIGNIFICANCE</b>	<b>FIELD RATING</b>	<b>GRADE</b>	<b>RECOMMENDED MITIGATION</b>
<b>High Significance</b>	National Significance	Grade 1	Site conservation / Site development
<b>High Significance</b>	Provincial Significance	Grade 2	Site conservation / Site development
<b>High Significance</b>	Local Significance	Grade 3A / 3B	
<b>High / Medium Significance</b>	Generally Protected A		Site conservation or mitigation prior to development / destruction
<b>Medium Significance</b>	Generally Protected B		Site conservation or mitigation / test excavation / systematic sampling / monitoring prior to or during development / destruction
<b>Low Significance</b>	Generally Protected C		On-site sampling monitoring or no archaeological mitigation required prior to or during development / destruction

## **DESKTOP STUDY**

The desktop study consisted of analysing various maps for evidence of prior habitation in the study area, as well as for previous archaeological surveys. I also used various sources for historical information.

### **PREVIOUS ACHAEOLOGICAL & HERITAGE SURVEYS**

Several HIA studies have been undertaken in the surrounding areas (Pistorius 2007, 2010; van der Walt 2012, 2014, 2016; Huffman and van der Walt 2008a, 2008b, 2011, 2012; van Schalkwyk 2005a, 2005b, 2006, 2007, 2008. Van der Walt (2016) surveyed parts of the Farm Appelvlakte. No sites were recorded in the current study area and the dense vegetation was noted. Fig. 5 shows the location of known heritage sites in the general area.

No national monuments, battlefields, or historical cemeteries are known to occur within the study area.

The Farm Appelvlakte 448 LQ was first surveyed in 1908, and probably granted shortly thereafter (fig. 6). The area may have been under lease before being granted. The surveyors map does not indicate any buildings

The 1969 map indicates the study area is undeveloped and that there are no buildings (fig. 7).

The desktop study suggests that there will have a low occurrence of archaeological and historical sites.

FIG. 5: KNOWN HERITAGE SITES IN THE AREA





FIG. 6: SURVEYOR GENERAL MAP OF APPELVLAKTE (1908)

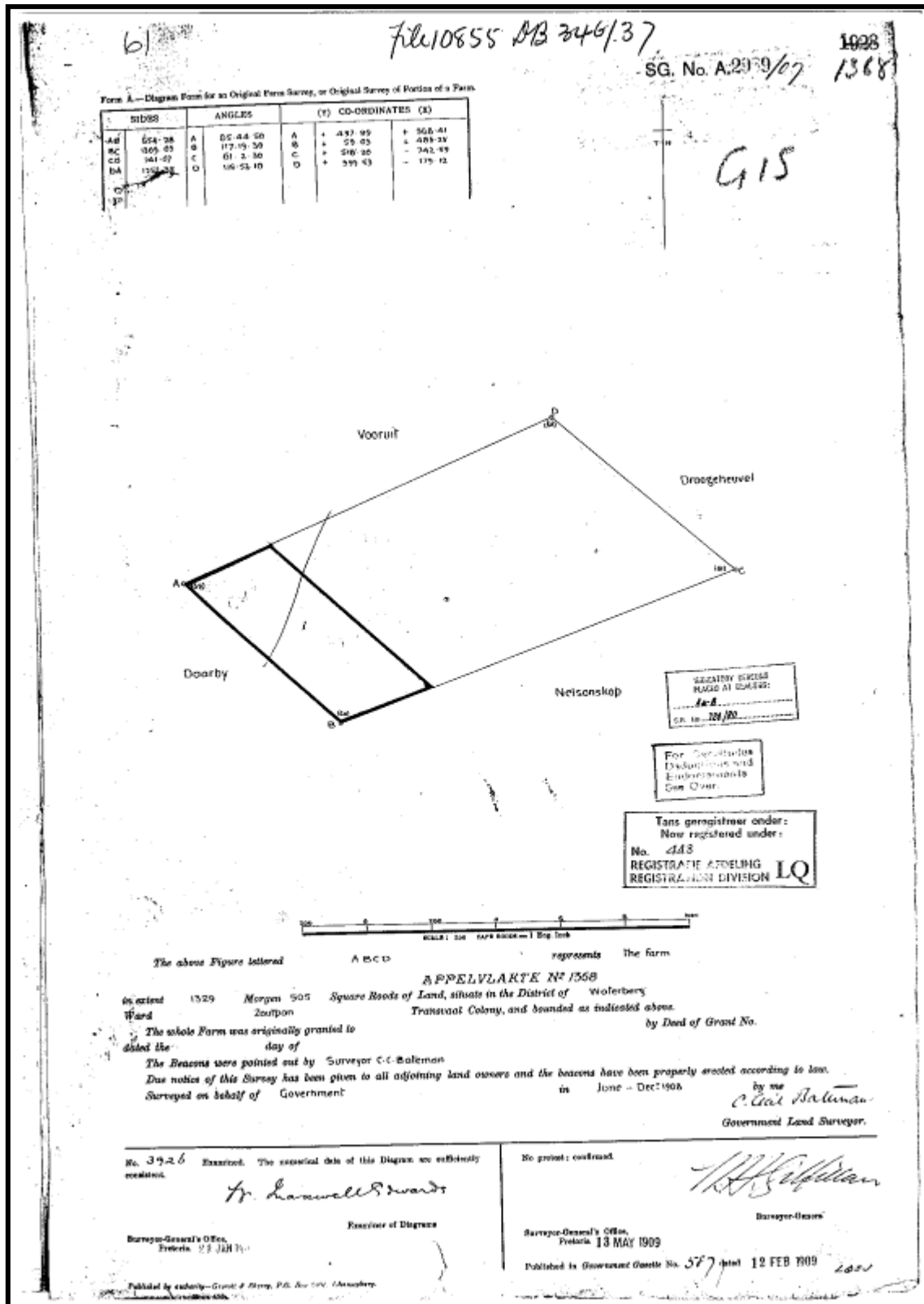
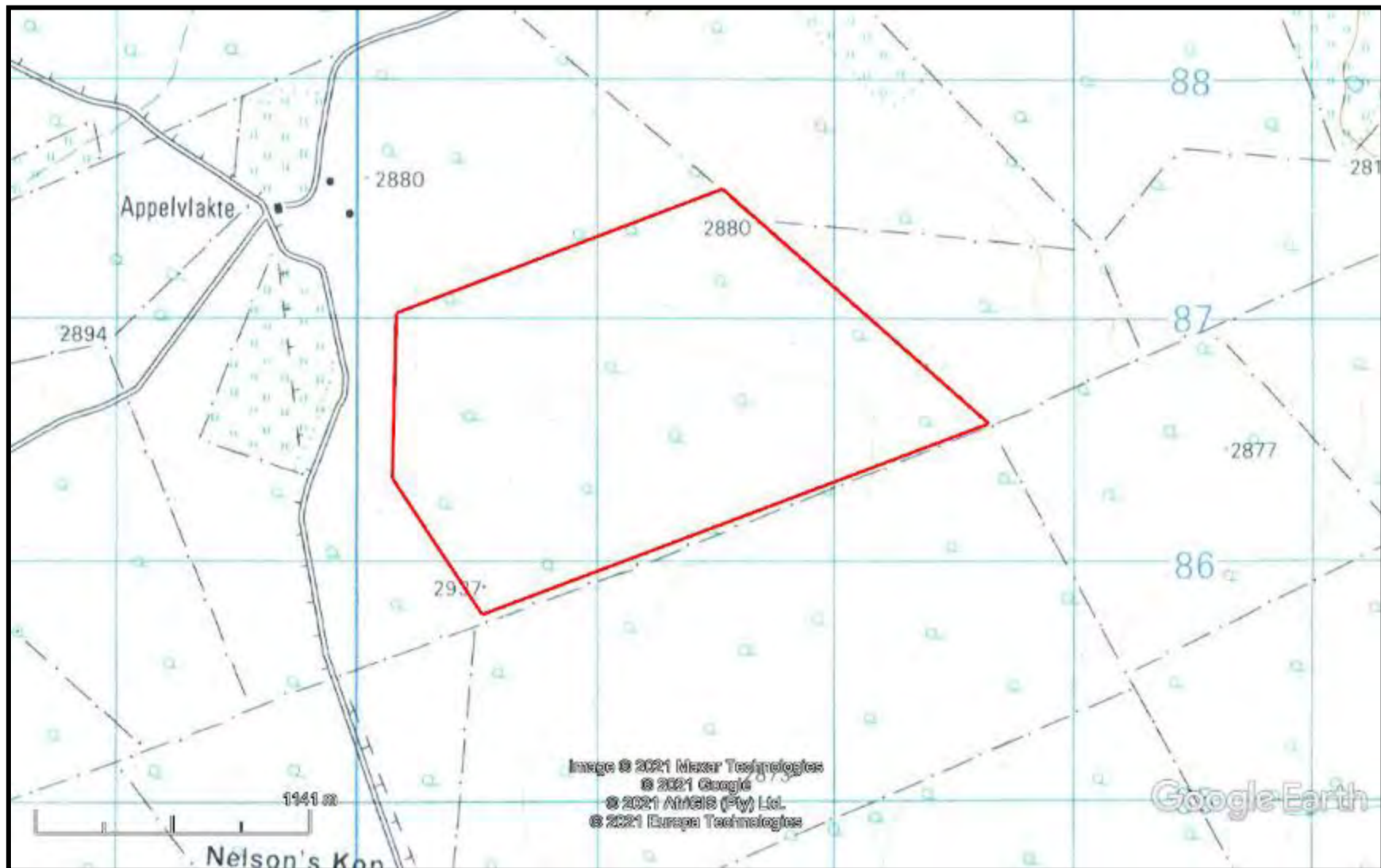


FIG. 7: TOPGRAPHICAL MAP OF APPELVLAKTE (1969)

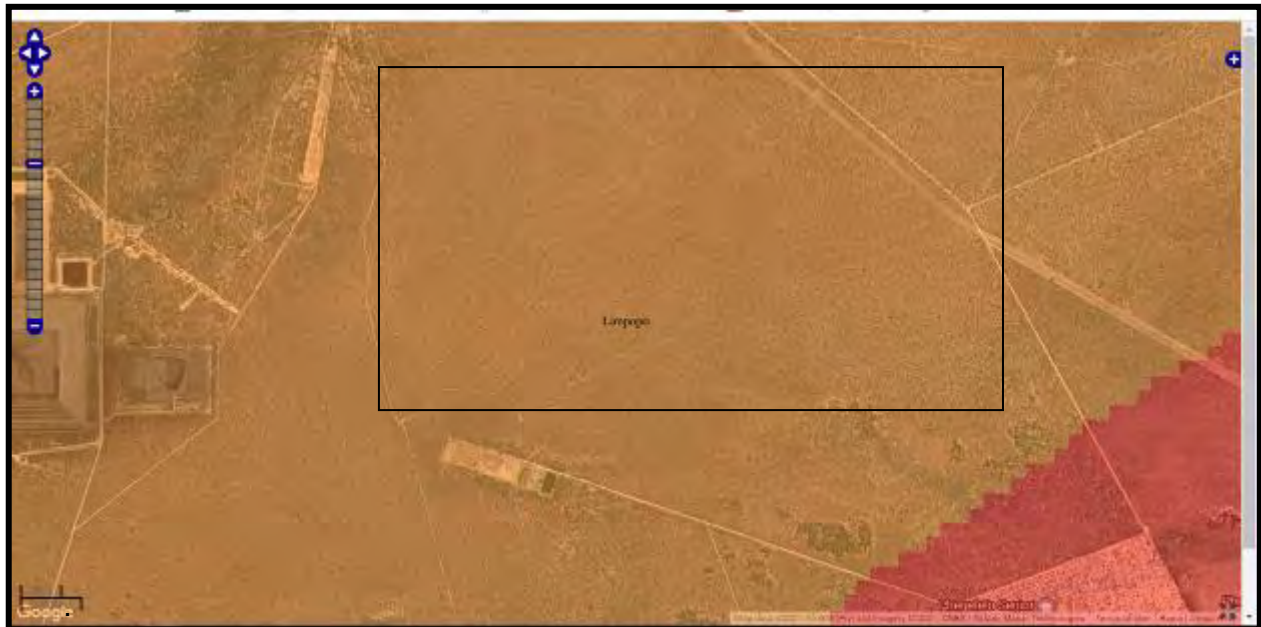




## PALAEONTOLOGICAL DESKTOP STUDY

The palaeontology of the area is considered to be of high significance (fig. 8). A desktop study was undertaken by Dr. Alan Smith (Appendix B).

**FIG. 8: PALAEONTOLOGICAL SENSITIVITY OF THE STUDY AREA**



COLOUR	SENSITIVITY	REQUIRED ACTION
RED	VERY HIGH	field assessment and protocol for finds is required
ORANGE/YELLOW	HIGH	desktop study is required and based on the outcome of the desktop study, a field assessment is likely
GREEN	MODERATE	desktop study is required
BLUE	LOW	no palaeontological studies are required however a protocol for finds is required
GREY	INSIGNIFICANT/ZERO	no palaeontological studies are required
WHITE/CLEAR	UNKNOWN	these areas will require a minimum of a desktop study. As more information comes to light, SAHRA will continue to populate the map.

The PIA desktop notes that this site is underlain by Clarence Formation which is part of the Karoo Sequence. The Lower Jurassic aged Clarence Formation comprises predominantly fine-medium-grained sandstone and forms spectacular cliffs. The Formation is interpreted as an Aeolian deposit (desert dunes). This was a continent-scale desert.

This project will have a very shallow foundation, consequently there will be very little disturbance to any palaeontological material. However a “Chance Find Protocol” has been included.

The chance of significant fossils being found on this site is Low, but not Zero. Consequently a “Chance Find Protocol” has been included to cover this eventuality. No further palaeontological work is required, unless triggered by the “Chance Find Protocol”, which must form part of the Environmental Management Program (EMPr) for the site. Should palaeontological material be found, a suitably qualified palaeontologist must inspect the find.

## **FIELD SURVEY**

The field survey was undertaken by Mr Frans Roodt in June 2021 as Umlando could not undertake the survey when the fieldwork dates were changed.

### **Stone Age remains**

No Stone Age material was detected in the study area. Stone Age material may occur as chance finds or exposed during earthworks. Isolated stone tools could occur and these would not constitute a site.

The study terrain is not suitable for Rock Art as there are no large loose-standing boulders or rock overhangs which would facilitate rock art.

### **Late Iron Age (Early Farming Communities)**

No Iron Age (Farming communities) cultural material was detected in the project area..

### **Graves and burials sites**

No graves or burial sites were detected in the project area. Various burial sites and graves were, however, recorded to the south-west at Medupi Power Station by Mbofho Consulting and Project Managers during a community remedial process. The proposed project will have no impact on community graves.

### **The built environment / historical structures**

No historical structures or farmstead was detected in the project area. The original Appelvlakte Farm buildings occur outside of the study area, and appear to be ruins from the Google Earth imagery. These will not be affected by the proposed development.

## **MANAGEMENT PLAN**

The archaeological and historical record for this specific study area is of low significance. No heritage sites have been recorded, although isolated artefacts would probably occur. If any artefacts are noted, then the ECO can send them to the heritage practitioner for comment. These would be Chance Finds and not hinder the development.

The palaeontology of the area is considered to be of high significance. However, the probability of finding palaeontological material in the upper weathered deposits is very low. . If any artefacts are noted, then the ECO can send them to the heritage practitioner for comment. These would be Chance Finds and not hinder the development.

No further mitigation is required for the proposed photovoltaic plant.

## **CONCLUSION**

A heritage survey was undertaken for the proposed Grootgeluk photovoltaic plant. Several heritage sites have been recorded outside of the study area and included

historical buildings, Stone Age material and human graves. No heritage sites were recorded within the study area.

A chance find protocol was suggested for the palaeontological aspect of the project.

No further mitigation is required for the photovoltaic plant.

## REFERENCES

Huffman, T.N. Van der Walt, J. 2011. Mafutha Heritage Report. A field study prepared for Environmental Resource management, Sasol Technology, SRK Consulting and Sustainable Environmental Solutions. Archaeological Resources Management, Johannesburg.

Huffman, T.N., Van der Walt, J. 2008. Mafutha EBA: Cultural Heritage and Archaeology Report. A field study prepared for Environmental Resources Management. Archaeological Resources Management, Johannesburg.

Pistorius, J.C.C. 2007. A Phase 1 Heritage Impact Assessment Study for the Eskom Mmamabula Delta Project near Lephalale in the Limpopo Province of South Africa. Prepared for PBA International.

Van der Walt, J. 2016. AIA for the proposed Tshivhaso coal-fired plant, Limpopo province. For Savannah Environmental (Pty) Ltd.

Van der Walt, J. 2012. Archaeological Scoping Report for the proposed IPP Waterberg Powerstation, Lephalale, Limpopo Province. Unpublished report.

Van Schalkwyk, J.A. 2005. Heritage Impact Scoping Report for the Proposed New Matimba B Power Station. Lephalale District, Limpopo Province. An unpublished report by the National Cultural History Museum on file at SAHRA as: 2005-SAHRA-0106.

Van Schalkwyk, J.A. 2011. Heritage Impact Assessment Report for the proposed establishment of the Exxaro PV Plant on the farm Nelsonskop, Lephalale, Limpopo Province. Prepared for Savannah Environmental (Pty) Ltd.

Van Schalkwyk, L & Wahl, E. 2014. Draft Phase 1 Heritage Impact Assessment Report: Proposed Zonderwater Project Area, Lephalale Local Municipality, Waterberg District, Limpopo Province, South Africa

## **EXPERIENCE OF THE HERITAGE CONSULTANT**

Gavin Anderson has a M. Phil (in archaeology and social psychology) degree from the University of Cape Town. Gavin has been working as a professional archaeologist and heritage impact assessor since 1995. He joined the Association of Professional Archaeologists of Southern Africa in 1998 when it was formed. Gavin is rated as a Principle Investigator with expertise status in Rock Art, Stone Age and Iron Age studies. In addition to this, he was worked on both West and East Coast shell middens, Anglo-Boer War sites, and Historical Period sites.

## **DECLARATION OF INDEPENDENCE**

I, Gavin Anderson, declare that I am an independent specialist consultant and have no financial, personal or other interest in the proposed development, nor the developers or any of their subsidiaries, apart from fair remuneration for work performed in the delivery of heritage assessment services. There are no circumstances that compromise the objectivity of my performing such work.

A handwritten signature in black ink, appearing to read 'Gavin Anderson', with a horizontal line underneath.

Gavin Anderson  
Archaeologist/Heritage Impact Assessor

**APPENDIX A**  
**AIA FIELD SURVEY**

# **PHASE 1 CULTURAL HERITAGE IMPACT ASSESSMENT REPORT**

## **PROPOSED GROOTGELUK**

**FOR:** GCS Water & Environmental Consultants (Pty) Ltd

63 Wessel Road,  
Rivonia, Johannesburg,  
South Africa



## **Executive Summary**

This report addresses the development of the Grootgeluk Photovoltaic (PV) solar power plant. It is 256 hectares in extent with a generation capacity of approximately 100MWp (80 MWac) covering the entire project area.

- A literature study and field survey of the project area was undertaken;
- The project area contains no known heritage resources. This is mainly due to the fact that the area is arid with no reliable water sources. People preferred to live near perennial water sources or springs, but would have utilised the area to collect resources and for livestock herding. Hunter-gatherers would have utilised seasonal pans;
- There is a risk that Stone Age material is likely to occur subterranean, but that will only be exposed when earthworks commence.

In view of the findings of the study no specific mitigation measures are recommended other than;

- The environmental control officer must be made aware of the fact that Stone Age material may be exposed during earthworks and that an archaeologist must be consulted for an assessment and further action.

From a heritage resources management perspective there is no objection towards the proposed development.

## CONTENT

	Page
<b>Executive summary</b>	i
1. <b>Introduction and terms of reference</b>	1
1.1 Introduction	1
1.2 Terms of reference and scope of work	1
2. <b>Project and terrain description</b>	1
2.1 Project location and discription	1
2.2 Terrain description	2
3. <b>Relevant legislation</b>	2
3.1 The National Heritage Resources Act (25 of 1999) (NHRA)	2
3.2 The Human Tissues Act (65 of 1983)	4
4. <b>Methodology</b>	5
4.1 Sources of information	5
4.2 Limitations and assumptions	5
4.3 Categories of significance	6
4.4 Terminology	6
5. <b>Baseline information</b>	6
5.1 The Stone Age	6
5.2 The Iron Age	7
5.3 The historical landscape	8
6. <b>Results of the Survey</b>	8
7. <b>Discussion</b>	9
8. <b>Evaluation and statement of significance</b>	10
9. <b>Recommendation</b>	11
10 <b>References</b>	12
.	
11 <b>Maps and images (Figures 1 – 6)</b>	13

### List of Figures

1	Google earth image showing the project area in relation to Lephalale and nearby Power Stations and Mine.	13
2	Google earth image of project area with GPS track indicated by the yellow line.	14
3	General view of the vegetation.	15
4	View of animal burrow.	15
5	View of game trail.	16
6	View of high voltage power line just east of the project area.	16

# **1. INTRODUCTION AND TERMS OF REFERENCE**

## **1.1 Introduction**

The author was contracted by the Environmental Assessment Practitioner; GCS Water and Environmental Consultants, to undertake a Phase 1 Heritage Impact Assessment of the proposed Grootgeluk Solar Project.

The applicant proposes to generate electricity from the solar energy resource using photovoltaic panels.

The proposed project would entail the development of a Photovoltaic (PV) solar power plant up to 256 hectares in extent with a generation capacity of approximately 100MWp (80 MWac) covering the entire feasible area. The final capacity would be dependent on ongoing development of photovoltaic technologies, as more efficient modules may become available by the time that the project would begin construction. The development footprint is approximately 256 hectares; however the generation capacity may vary based on the availability of more efficient PV panels.

## **1.2 Terms of reference and scope of work**

Undertake a Heritage Impact Assessment and submit a specialist report, which addresses the following:

- A desktop and field assessment to gather information on heritage resources within the proposed development area;
- Identify possible archaeological, cultural and historic sites within the proposed development area;
- Evaluate the potential impacts of construction, operation and maintenance of the proposed development on archaeological, cultural and historical resources;
- Recommend mitigation measures to ameliorate any negative impacts on areas of archaeological, cultural or historical importance; and
- Identifying key uncertainties and risks.

## **2. PROJECT AND TERRAIN DISCRPTION**

### **2.1 Project location and description**

The proposed project is located in the south-eastern portion of the farm Appelvlakte 448 LQ and is situated approximately 14 km north-west-west of the Lephalale CBD. It falls within the quarter degree grid 2327 DA.

The solar facility will consist of:

- Solar PV panels,
- Steel support structure and tracker system on concrete foundations,
- Inverter stations as part of the PV field,
- Transformers, switchgear and related equipment as part of the Substations, and
- Internal roads.

The project associated infrastructure will consist of:

- Substation complex (33/132 kV) including control rooms and grid control yards,
- Existing Grootegeluk substation upgrades,
- 132 kV Transmission line and transmission towers,
- Battery Energy Storage System (BESS),
- Operations and maintenance buildings,
- Water provision,
- Access roads,
- Internal roads,
- Perimeter fencing,
- Access control gate,
- Security building,
- Temporary concrete batching facility,
- Temporary offices for the construction period,
- Construction yard, and
- Laydown area

The Lephalale Solar facility is being developed with a maximum installed capacity of 100 MWp (DC) which produces 80 MWac (AC) of electricity. The facility will be in operation for at least 20 years. It is important to note that the final specifications of the project components will be determined during the detailed engineering phase which would commence after receipt of an Environmental Authority from the competent authority.

## **2.2 Terrain description**

The study area is situated on the plains between the Waterberg and the Limpopo River. The topography is gentle and slopes toward the Mokolo River. There are no drainage lines within the project area and no erosion occurs. The yellow sandy soil appears to be deep as can be deduced from animal burrowing pits. There is no or very limited human impact on the terrain. No outcrops or rock formations exist in the project area.

The entire terrain consists of dense natural vegetation of the Limpopo Sweet Bushveld short open woodland type. Common trees are Rooibos (*Combretum apiculatum*), Vaalboom (*Terminalia sericea*), Maroela (*Sclerocarya birrea*), Red syringa (*Burkea Africana*), Camel thorn (*Vachelia erioloba*) and the occasional Sickie bush (*Dichrostachys*).

## **3. RELEVANT LEGISLATION**

Two sets of legislation are relevant for this study with regard to the protection of heritage resources and graves.

### **3.1 The National Heritage Resources Act (25 of 1999) (NHRA)**

This Act established the South African Heritage Resources Agency (SAHRA) and makes provision for the establishment of Provincial Heritage Resources Authorities (PHRA). The Act makes provision for the undertaking of heritage resources impact assessments for various categories of development as determined by Section 38. It also provides for the grading of heritage resources (Section 7) and the implementation of a three-tier level of responsibilities and functions for heritage resources to be undertaken by the State, Provincial authorities and Local authorities, depending on the grade of the Heritage resources (Section 8).

In terms of the National Heritage Resources Act (1999) the following is of relevance in terms of the general protection of heritage resources:

### **Historical remains**

**Section 34(1)** No person may alter or demolish any structure or part of a structure, which is older than 60 years without a permit issued by the relevant provincial heritage resources authority.

### **Archaeological remains**

**Section 35(3)** Any person who discovers archaeological or palaeontological objects or material or a meteorite in the course of development or agricultural activity must immediately report the find to the responsible heritage resources authority or to the nearest local authority or museum, which must immediately notify such heritage resources authority.

**Subsection 35(4)** No person may, without a permit issued by the responsible heritage resources authority-

- (a) destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite;
- (b) destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological material or object or any meteorite;
- (c) trade in, sell for private gain, export or attempt to export from the republic any category of archaeological or palaeontological material or object, or any meteorite; or
- (d) bring onto or use at an archaeological or palaeontological site any excavation equipment or any equipment which assist with the detection or recovery of metals or archaeological material or objects, or use such equipment for the recovery of meteorites.

**Subsection 35(5)** When the responsible heritage resources authority has reasonable cause to believe that any activity or development which will destroy, damage or alter any archaeological or palaeontological site is under way, and where no application for a permit has been submitted and no heritage resources management procedures in terms of section 38 has been followed, it may-

- (a) serve on the owner or occupier of the site or on the person undertaking such development an order for the development to cease immediately for such period as is specified in the order;

- (b) carry out an investigation for the purpose of obtaining information on whether or not an archaeological or palaeontological site exists and whether mitigation is necessary;
- (c) if mitigation is deemed by the heritage resources authority to be necessary, assist the person on whom the order has been served under paragraph (a) to apply for a permit as required in subsection (4); and
- (d) recover the costs of such investigation from the owner or occupier of the land on which it is believed an archaeological or palaeontological site is located or from the person proposing to undertake the development if no application for a permit is received within two weeks of the order being served.

**Subsection 35(6)** The responsible heritage resources authority may, after consultation with the owner of the land on which an archaeological or palaeontological site or meteorite is situated; serve a notice on the owner or any other controlling authority, to prevent activities within a specified distance from such site or meteorite.

### **Burial grounds and graves**

#### **Subsection 36(3)**

- (a) No person may, without a permit issued by SAHRA or a provincial heritage resources authority-
- (c) destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority; or
- (d) bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) any excavation equipment, or any equipment which assists in detection or recovery of metals.

**Subsection 36(6)** Subject to the provision of any law, any person who in the course of development or any other activity discovers the location of a grave, the existence of which was previously unknown, must immediately cease such activity and report the discovery to the responsible heritage resources authority which must, in co-operation with the South

African Police Service and in accordance with regulations of the responsible heritage resources authority-

(a) carry out an investigation for the purpose of obtaining information on whether or not such grave is protected in terms of this Act or is of significance to any community; and

(b) if such grave is protected or is of significance, assist any person who or community which is a direct descendant to make arrangements for the exhumation and re-interment of the content of such grave or, in the absence of such person or community, make any such arrangement as it deems fit.

### **Culture Resource Management**

**Subsection 38(1)** Subject to the provisions of subsection (7), (8) and (9), any person who intends to undertake a development\* ...

must at the very earliest stages of initiating such development notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.

\***‘development’** means any physical intervention, excavation, or action, other than those caused by natural forces, which may in the opinion of the heritage authority in any way result in a change to the nature, appearance or physical nature of a place, or influence its stability and future well-being, including-

(a) construction, alteration, demolition, removal or change of use of a place or a structure at a place;

(b) carry out any works on or over or under a place\*;

(e) any change to the natural or existing condition or topography of land, and

(f) any removal or destruction of trees, or removal of vegetation or topsoil;

\*\***‘place’** means a site, area or region, a building or other structure\* ...”

\*\***‘structure’** means any building, works, device or other facility made by people and which is fixed to the ground ...”

### **3.2 The Human Tissues Act (65 of 1983)**

This Act protects graves younger than 60 years. These fall under the jurisdiction of the National Department of Health and the Provincial Health Departments. Approval for the



exhumation and re-burial must be obtained from the relevant Provincial MEC, most the relevant Local Authorities.

## **4. METHODOLOGY**

### **4.1 Sources of information**

The main source of information was a literature review. In 2011 a similar project was investigated by Exxaro on the neighbouring farm Nelsonkop 464 LQ and the specialist studies for this project was very useful. A pedestrian reconnaissance of the proposed project area was undertaken and the SAHRIS database was consulted. Google Earth and the Topographical map 2327 DA were studied.

### **4.2 Limitations and assumptions**

- There are no roads or paths on the terrain resulting in the area being traversed on foot along game tracks or blindly through the woodland by means of keeping track of movement on the GPS-map function on which the outer boundary was plotted.
- Visibility was good in the area of movement, but dense vegetation in places may have obscured evidence of heritage remains.
- It must be noted that most archaeological material is subterranean and may have been missed on the surface. Therefore chance finds may occur.
- Absence of evidence is not evidence of absence.

### **4.3 Categories of significance**

The significance of heritage sites is ranked into the following categories.

No significance: sites that do not require mitigation.

Low significance: sites, which *may* require mitigation.

Medium significance: sites, which require mitigation.

High significance: sites, which must not be disturbed at all.

The significance of specifically an archaeological site is based on the amount of deposit, the integrity of the context, the kind of deposit and the potential to help answer present research questions. Historical structures are defined by Section 34 of the National Heritage

Resources Act, 1999, while other historical and cultural significant sites, places and features, are often determined by community preferences.

#### **4.4 Terminology**

Early Stone Age: Predominantly the Oldowan artifacts and Acheulian hand axe industry complex dating to + 1Myr yrs – 250 000 yrs. before present.

Middle Stone Age: Various lithic industries in SA dating from ± 250 000 yrs. - 22 000 yrs. before present.

Late Stone Age: The period from ± 22 000-yr. to contact period with either Iron Age farmers or European colonists.

Early Iron Age: Most of the first millennium AD

Middle Iron Age: 10<sup>th</sup> to 13<sup>th</sup> centuries AD

Late Iron Age: 14<sup>th</sup> century to colonial period. *The entire Iron Age represents the spread of Bantu speaking peoples.*

Phase 1 assessments: Scoping surveys to establish the presence of and to evaluate heritage resources in a given area

Phase 2 assessments: In depth culture resources management studies which could include major archaeological excavations, detailed site surveys and mapping / plans of sites, including historical / architectural structures and features. Alternatively, the sampling of sites by collecting material, small test pit excavations or auger sampling could be undertaken.

PIA Palaeontological Impact Assessment.

Sensitive: Often refers to graves and burial sites, as well as ideologically significant sites such as ritual / religious places. *Sensitive* may also refer to an entire landscape / area known for its significant heritage remains.

NHRA National Heritage Resources Act (Act 25 of 1999)

SAHRA South African Heritage Resources Agency

SAHRIS South African Heritage Resources Information System

## **5. BASELINE INFORMATION**

No significant research had been conducted within the direct project area. The baseline information is therefore mostly generic.

## **5.1 The Stone Age**

The Stone Age covers most of southern Africa and the earliest consist of the Oldowan and Acheul artifacts assemblages. Oldowan tools are regularly referred to as “choppers”. Oldowan artifacts are associated with *Homo habilis*, the first true humans. In South Africa definite occurrences have been found at the sites of Sterkfontein and Swartkrans. Here they are dated to between 1.7 and 2 million years old. Bearing in mind the proximity of the Makapans Valley palaeontological site about 50km south-east of the project area it is possible that they may occur here. This was followed by the Acheulian technology from about 1.4 million years ago which introduced a new level of complexity. The large tools that dominate the Acheulian artefact assemblages range in length from 100 to 200 mm or more. Collectively they are called bifaces because they are normally shaped by flaking on both faces. In plan view, they tend to be pear-shape and are broad relative to their thickness. Most bifaces are pointed and are classified as handaxes, but others have a wide cutting end and are termed cleavers. The Acheulian design persisted for more than a million years and only disappeared about 250 000 years ago. Here, too the Makapans Valley Site is referenced; especially the Cave of Hearths.

The change from Acheulian with their characteristic bifaces, handaxes and cleavers to Middle Stone Age (MSA), which are characterized by flake industries, occurred about 250 000 years ago and ended about 30 000 – 22 000 years ago. For the most part the MSA is associated with modern humans; *Homo sapiens*. MSA remains are found in open spaces where they are regularly exposed by erosion as well as in caves. Characteristics of the MSA are flake blanks in the 40 – 100 mm size range struck from prepared cores, the striking platforms of the flakes reveal one or more facets, indicating the preparation of the platform before flake removal (the prepared core technique), flakes show dorsal preparation – one or more ridges or arise down the length of the flake – as a result of previous removals from the core, flakes with convergent sides (laterals) and a pointed shape, and flakes with parallel laterals and a rectangular or quadrilateral shape: these can be termed pointed and flake blades respectively. Other flakes in MSA assemblages are irregular in form. The project area contains a thick calcrete layer below the prevailing surface sand. Mason (1962) has recorded MSA tools from below the calcrete on the farm

De Loskop 205 LS, approximately 30 km east of the project area. A similar situation may occur in the project area. In addition Mason also observed that MSA material occur next to or near pans – the project area contains a number of pans, especially in the south-eastern part.

The change from Middle Stone Age to Later Stone Age (LSA) took place in most parts of southern Africa little more than about 20 000 years ago. It is marked by a series of technological innovations or new tools that, initially at least, were used to do much the same jobs as had been done before, but in a different way. Their introduction was associated with changes in the nature of hunter-gatherer material culture. The innovations associated with the Later Stone Age “package” of tools include rock art – both paintings and engravings, smaller stone tools, so small that the formal tools less than 25mm long are called microliths (sometimes found in the final MSA) and Bows and arrows. Rock art is an important feature of the LSA and is abundant in the Waterberg Mountains.

Surveys of adjacent areas determined that Middle Stone Age remains are present at pans, usually where the calcrete base was exposed as well as in isolated settings. This calcrete formed during a cold period with alternating wet and dry episodes that allowed calcium carbonate to precipitate on to the land surface. Some Middle Stone Age (MSA) artifacts occurred in the calcrete, and so they predate this geo-morphological formation. These artefact assemblages typically include radial cores, triangular points, convergent scrapers and flakes. They represent what is called a Post Howieson’s Poort Industry and thus date to between 60,000 and 40,000 years ago (see Deacon and Deacon 1999: 96-98). These Post Howieson’s Poort artifacts were made from quartz and quartzite pebbles that formed part of the fericrete horizon found underneath the calcrete. This fericrete is an iron-rich formation derived from the Waterberg sandstones to the south. The stones and iron-rich soil must have first washed down during a high-rainfall period and then formed under arid conditions, perhaps about 200,000 years ago. If Early Stone Age artifacts occur in the study area, they will lie under this fericrete horizon (Huffman & van der Walt 2013).

A Late Stone Age archaeological site was identified on a koppie named Koorn Kop on the adjacent farm Nelsonkop 464 LQ. Some engravings of animal spoors, cupules, and cut marks were identified on the southern face of the koppie (van Schalkwyk 2011).

The proposed project does not impact on any rock formation or large boulders where rock art paintings or engravings may occur.

## 5.2 The Iron Age (Early Farming Communities)

According to the archaeological cultural distribution sequences by Huffman (2007), this area falls within the distribution area of various cultural groupings originating out of both the Urewe Tradition (eastern stream of migration) and the Kalundu Tradition (western stream of migration). The ceramic facies that may be present are:

Urewe Tradition:	Moloko branch	Letsibogo facies AD 1500 – 1700 (Late Iron Age) Madikwe facies AD 1500 – 1700 (Late Iron Age) <i>This is an area where the Letsibogo and Madikwe facies may overlap. Both are associated with Sotho-Tswana speakers.</i>
------------------	---------------	--

Kalundu Tradition:	Benfica sub-branch Happy Rest sub-branch	Bambata facies AD 150 – 650 (Early Iron Age) Diamand facies AD 750 - 1000 (Early Iron Age) Eilandfacies AD 1000 – 1300 (Middle Iron Age)
--------------------	---	--

Although no Iron Age sites were observed in the project area, previous surveys to the west of the project area indicate that the area contains cattle outposts of farming communities living elsewhere.

## 5.3 The historical landscape

The historic period starts quite late in this part of the country. Probably one of the earliest published sources that refer to the area, in a generalised sense, is that of the explorer Thomas Baines who passed through the area during the early 1870s. Although for other sections of his travels he gives detailed descriptions of the local population, he does not comment on anybody in this particular area. Although his rendering of the various rivers

and other topographical features are quite accurate for the time, he seems to imply that there were no communities settled here.

Limited information has been obtained about some farms in the area. It seems as if they are part of government land until the early part of the 20th century and most were only surveyed in the period 1909 - 1910. Drilling activities undertaken by the "Irrigation Department" in 1920, apparently revealed more than water and the presence of coal and oil bearing shale was detected on the farms Grootegeluk and Hooikraal. This prompted an individual by the name of F.F. Pienaar to peg 50 claims on each of the farms Kringatspruit, Hooikraal, Grootegeluk, and Enkelbult (van Schalkwyk 2011).

## **6. RESULTS OF THE SURVEY**

### **6.1 Palaeontology**

The farm Applevlakte falls in the yellow/orange colour code of the SAHRIS Palaeontological Sensitivity Map. A separate palaeontological study will be prepared for the client.

### **6.2 Stone Age remains**

No Stone Age material was detected in the study area. Bearing in mind the discussion in point 5, Baseline Information, Stone Age material may occur as chance finds or exposed during earthworks. However, no primary Stone Age site is expected.

The study terrain is not suitable for Rock Art as there are no large loose-standing boulders or rock overhangs which would facilitate rock art.

### **6.3 Late Iron Age (Early Farming Communities)**

No Iron Age (Farming communities) cultural material was detected in the project area..

#### **6.4 Graves and burials sites**

No graves or burial sites were detected in the project area. Various burial sites and graves were, however, recorded to the south-west at Medupi Power Station by Mbofho Consulting and Project Managers during a community remedial process (Mbofho 2015). The proposed project will have no impact on community graves.

#### **6.5 The built environment / historical structures**

No historical structures or farmstead was detected in the project area.

### **7. DISCUSSION**

The project area contains no know heritage resources. This is mainly due to the fact that the area is arid with no reliable water sources. People preferred to live near perennial water sources or springs, but would have utilised the area to collect resources and for livestock herding. Hunter-gatherers would have utilised seasonal pans. There is a risk that Stone Age material is likely to occur subterraneous, but that will only be exposed when earthworks commences.

## 8. EVALUATION AND STATEMENT OF SIGNIFICANCE

### 8.1 Significance criteria in terms of Section 3(3) of the National Heritage Resources Act.

**Table 1: Significance criteria and rating**

<b>Significance</b>		<b>Rating</b>
1.	The importance of the cultural heritage in the community or pattern of South Africa's history (Historic and political significance)	Low
2.	Possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage (Scientific significance).	Low
3.	Potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage (Research/scientific significance)	Low
4.	Importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects (Scientific significance)	None
5.	Importance in exhibiting particular aesthetic characteristics valued by a community or cultural group (Aesthetic significance)	None
6.	Importance in demonstrating a high degree of creative or technical achievement at a particular period (Scientific significance)	None
7.	Strong or special association with a particular community or cultural group for social, cultural or spiritual reasons (Social significance)	Low
8.	Strong or special association with the life and work of a person, group or organization of importance in the history of South Africa (Historic significance)	None
9.	The significance of the site relating to the history of slavery in South Africa.	None

#### **8.2 Section 38(3) (c) An assessment of the impact of the development on such heritage resources.**

There will be no impact on known heritage resources.

#### **8.3 Section 38(3) (d) An evaluation of the impact of the development on heritage resources relative to the sustainable economic benefits to be derived from the development.**



The sustainable economic benefits outweigh the significance of the heritage resources for local community development.

**8.4 Section 38(3) (e) *The results of consultation with the communities affected by the proposed development and other interested parties regarding the impact of the development on heritage resources.***

The development will have no direct impact on local communities.

**8.5 Section 38(3)(f) *If heritage resources will be adversely affected by the proposed development the consideration of alternatives.***

From a heritage management perspective there is no need to consider alternatives.

**8.6 Section 38(3)(g) *Plans for mitigation of any adverse effects during and after the completion of the proposed development.***

No specific mitigation measures are recommended.

## **9. RECOMMENDATIONS**

In view of the above it is only recommended that;

- The environmental control officer must be made aware of the fact that Stone Age material may be exposed during earthworks and that an archaeologist must be consulted for an assessment and further action.

From a heritage resources management perspective, there is no reason why the development may not proceed.

## 10. REFERENCES

Deacon, HJ and Deacon, J. 1999. Human Beginnings in South Africa. *Uncovering the Secrets of the Stone Age*. David Philip Publishers. Cape Town & Johannesburg.

Hoare, D. 2011. Basic Assessment Report: Specialist ecological report on the potential impacts of the proposed Exxaro Photovoltaic (PV) Solar Plant, North-West Province. David Hoare Consulting cc. Unpublished report.

Huffman, T.N. 2007. Handbook to the Iron Age. *The archaeology of Pre-colonial Farming Societies in Southern Africa*. University of KwaZulu-Natal Press.

Huffman, T. & van der Walt, J. 2013. Sasol Limpopo West Heritage Report. A Field Study Prepared for SRK Consulting. Johannesburg: Archaeological Resources Management. Unpublished report.

Nel, J., 2011a. Phase 1 Archaeological Impact Assessment for the Proposed Temo Coal Mine, Lephalale Local Municipality, Waterberg District, Limpopo Province. Digby Wells Environmental. Johannesburg. Unpublished report.

Savannah Environmental. 2011. Proposed Establishment of the Exxaro Photovoltaic Plant near Lephalale, Limpopo Province: Final Basic Assessment Report. DEA Ref No: 12/12/20/2306. Unpublished report.

Van Schalkwyk, JA. 2011. Heritage impact assessment report for the Proposed Establishment of the Exxaro PV Plant on the Farm Nelsonskop, North-West of Lephalale, Limpopo Province. Unpublished report.



11. MAPS AND IMAGES (Figures 1 – 6)



Figure 1. Google earth image showing the project area in relation to Lephalale and nearby Power Stations and Mine.





Figure 2. Google earth image of project area with GPS track indicated by the yellow line.





Figure 3. General view of the vegetation.



Figure 4. View of animal burrow.





Figure 5. View of game trail.



Figure 6. View of high voltage power line just east of the project area.

**APPENDIX B**  
**PIA DESKTOP STUDY**



**DESKTOP PALEONTOLOGICAL ASSESSMENT FOR A PROPOSED  
GROOTGELUK PHOTOVOLTAIC POWER STATION NEAR LEPHALALE,  
LIMPOPO PROVINCE**

**FOR**

**UMLANDO: Archaeological Surveys & Heritage Management  
PO Box 102532, Meerensee, KwaZulu-Natal 3901  
phone (035)7531785 fax: 0865445631  
cell: 0836585362 / 0723481327**

**By**

**Dr Alan Smith  
Alan Smith Consulting  
29 Browns Grove, Sherwood, Durban, 4091, South Africa  
Telephone: 031 208 6896  
[asconsulting@telkomsa.net](mailto:asconsulting@telkomsa.net)**

**4 June 2021**

## **Declaration of Independence**

This report has been compiled by Dr Alan Smith (Pr. Sc. Nat.) of Alan Smith Consulting, Durban. The views expressed in this report are entirely those of the author, if not then the source has been duly acknowledged. No other interest was displayed during the decision making process for the Project.

Specialist: Dr Alan Smith

Signature:

A handwritten signature in black ink, appearing to be 'AS', written over a horizontal line.

## **EXECUTIVE SUMMARY**

*Alan Smith Consulting was appointed by Umlando to conduct a desk-top assessment of the potential impacts to **Palaeontology Resources** that might occur through the proposed development of a Photovoltaic Power Station, near Lephalale, Limpopo Province. This project is to be constructed on Clarence Formation rocks. This is zoned orange by Sahris but the footprint will be very shallow and significant palaeontological material is unlikely to be found.*

*Section 38 of the National Resources Act No 25 of 1999 (Heritage Resources Management), requires a Palaeontological Impact Assessment (PIA) to assess any potential impacts to palaeontological heritage.*

*The chances of encountering fossils is **Low**, but a “**Chance Find Protocol**” has been included. Should fossils be found then a suitably qualified palaeontologist should be called in to undertake an analyses.*

## **ACRONYMS**

BA: Basic Assessment  
EDTEA: (Department of) Economic Development, Tourism and  
Environmental Affairs  
HIA: Heritage Impact Assessment  
PIA; Palaeontological Impact Assessment  
SAHRA: South African Heritage Resource Agency  
SAHRIS: South African Heritage Resources Information System

## 1. BACKGROUND

It is proposed that a Photovoltaic Power Station be erected at Grootgeluk, near Lephale, Limpopo (*Fig.1*). These features have a wide footprint but a very shallow foundation, consequently there is very little disturbance of the soil or rock.



**Figure 1: Location map of Proposed Grootgeluk Photovoltaic Power Station Project (white polygon).**

## 2. TERMS OF REFERENCE

Alan Smith Consulting was requested by UMLANDO: Archaeological Surveys & Heritage Management to provide a Desk-Top Palaeo Impact Assessment for the proposed Photovoltaic Power Station near Belfast (*Fig.1*). The work was to be based on the knowledge gained from desktop review. This report is to meet the requirements of the National Environmental Management Act (Act 107 of 1998) [as amended] Environmental Impact Assessment (EIA) regulations, Appendix 6.

## 3. SCOPE AND PURPOSE OF REPORT

A Palaeontological Impact Assessment (PIA) is a means of identifying any significant palaeontological material before development begins, so that these can be managed in such a way as to allow the development to proceed (if appropriate) without undue impacts to the fragile heritage of South Africa. The Desk-Top PIA report will outline any management and/or mitigation requirements that will need to be complied with from a heritage point of view and that should be included in the conditions of authorisation, should this be granted.

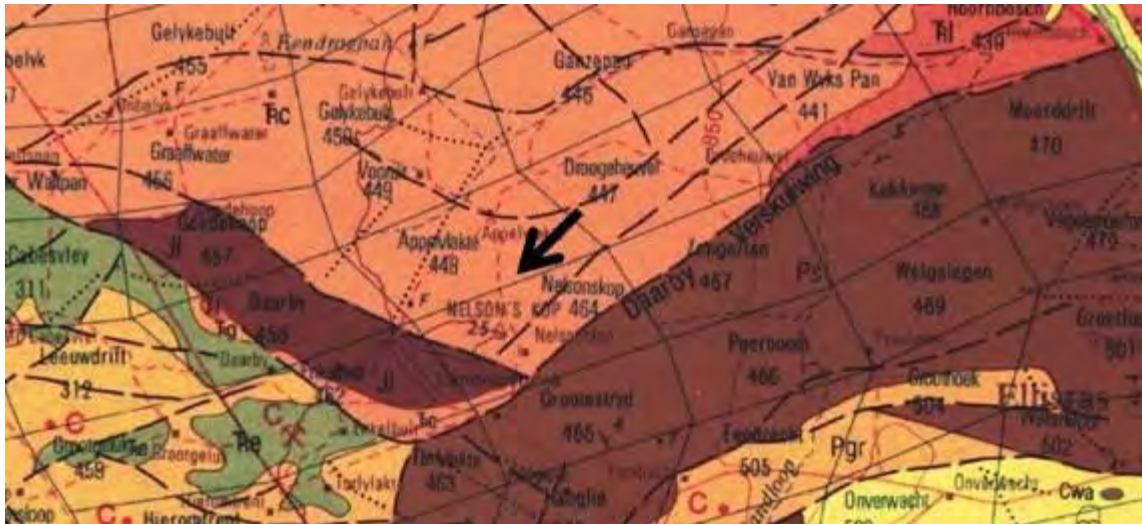
## 4. METHODOLOGY

Geological maps, a literature review and personal experience were used in this research.

## 5. GEOLOGY

### Clarence Formation

This site is underlain by Clarence Formation (**Fig. 2**) which is part of the Karoo Sequence. The Lower Jurassic aged Clarence Formation comprises predominantly fine-medium-grained sandstone and forms spectacular cliffs. The Formation is interpreted as an Aeolian deposit (desert dunes). This was a continent-scale desert. The average thickness of the Clarence Formation in the Ellisras/Lephalale Basin is 80 m with a maximum thickness of 130 m (Bordy and Head, 2018).



**Figure 2: Extract from the Ellisras 2326 1:250 000 Geological map. According to this map, the proposed site is underlain by Clarence Formation (arrow).**

The propose project is within the Lephalale/ Ellisras Basin, separate from that of the Main Karoo Basin (**Fig. 3**) No literature specific to this locality exists.



**Figure3: Location of the Lephale/ Ellisras Basin (in red box). Image modified (after Bordy and Head (2018)).**

## 6. PALAEOLOGY

### Clarence Formation

The SAHRIS Palaeosensitivity Map (Figure 4) considers the Clarence Formation as a **High Palaeosensitivity Zone**.

Within the Main Karoo Basin (**Fig. 3**), vertebrate and invertebrate fossils are generally found in the lower parts, of prominent cliffs (Bordy and Head, 2018). The proposed project locality is flat, and probably highly weathered, so is unlikely to be fossiliferous.

Very little is known about the Lephale/ Ellisras Basin (**Fig. 3**). According to Kitching and Raath (1984) vertebrate and invertebrate fossil occurrences in the Clarens Formation are mostly reported from its more accessible lower part, particularly near the base of the vertical cliffs. Systematic mapping of fossil distributions within the Clarens Formation has never been undertaken (Bordy and Head, 2018), this is particularly true of the Lephale/ Ellisras Basin.



**Figure 4: Palaeosensitivity of the Grootgeluk Photovoltaic Power Station site. This is indicated in red.**

**Table 1: Summary of SAHRIS categories**

Colour	Sensitivity	Required Action
RED	VERY HIGH	field assessment and protocol for finds is required
ORANGE/YELLOW	HIGH	desktop study is required and based on the outcome of the desktop study, a field assessment is likely
GREEN	MODERATE	desktop study is required
BLUE	LOW	no palaeontological studies are required however a protocol for finds is required

This project will have a very shallow foundation, consequently there will be very little disturbance to any palaeontological material. However a “Chance Find Protocol” has been included.

## 7. SUMMARY

The chance of significant fossils being found on this site is **Low**, but not **Zero**. **Consequently a “Chance Find Protocol”** has been included to cover this eventuality. No further palaeontological work is required, unless triggered by the “**Chance Find Protocol**”, which must form part of the Environmental Management Programme (EMPr) for the site. Should palaeontological material be found, a suitably qualified palaeontologist must inspect the find.

## **8. CHANCE FIND PROTOCOL**

This Chance Find Protocol must be included in the site EMPr.

If any fossils are found, a Palaeontologist must be notified immediately by the ECO and/or EAP and a site visit must be arranged at the earliest possible time with the Palaeontologist.

In the case of the ECO or the Site Manager becoming aware of suspicious looking palaeo-material:

- The construction must be halted in that specific area and the Palaeontologist must be given enough time to reach the site and remove the material before excavation continues.
- Mitigation will involve the attempt to capture all rare fossils and systematic collection of all fossils discovered. This will take place in conjunction with descriptive, diagrammatic and photographic recording of exposures, also involving sediment samples and samples of both representative and unusual sedimentary or biogenic features. The fossils and contextual samples will be processed (sorted, sub-sampled, labeled, and boxed) and documentation consolidated, to create an archive collection from the excavated sites for future researchers.

### **Functional responsibilities of the Developer**

1. At full cost to the project, and guided by the appointed Palaeontological Specialist, ensure that a representative archive of palaeontological samples and other records is assembled to characterize the palaeontological occurrences affected by the excavation operation.
2. Provide field aid, if necessary, in the supply of materials, labour and machinery to excavate, load and transport sampled material from the excavation areas to the sorting areas, removal of overburden if necessary, and the return of discarded material to the disposal areas.
3. Facilitate systematic recording of the stratigraphic and palaeo-environmental features in exposures in the fossil-bearing excavations, by described and measured geological sections, and by providing aid in the surveying of positions where significant fossils are found.
4. Provide safe storage for fossil material found routinely during excavation operations by construction personnel. In this context, isolated fossil finds in disturbed material qualify as “normal” fossil finds.
5. Provide covered, dry storage for samples and facilities for a work area for sorting, labeling and boxing/bagging samples.



6. Costs of basic curation and storage until collected. Documentary record of palaeontological occurrences must be done.

7. The contractor will, in collaboration with the Palaeontologist, make the excavation plan available to the appointed specialist, in which appropriate information regarding plans for excavations and work schedules must be indicated on the plan of the excavation sites. This must be done in conjunction with the appointed specialist.

8. Initially, all known specific palaeontological information will be indicated on the plan. This will be updated throughout the excavation period.

9. Locations of samples and measured sections are to be pegged, and routinely and accurately surveyed. Sample locations, measured sections, etc., must be recorded three-dimensionally if any "significant fossils" are recorded during the time of excavation.

## 9, CONCLUSIONS

This project will be constructed within soil formed from the Umkwalene Formation, and possibly the Vryheid Formation. Although paleontological material is unlikely to be encountered in the soil, a “Chance Find Protocol” has been included. No further **palaeontological work** is required unless the “Chance Find Protocol” is triggered.

## 10. REFERENCES

Bordy, EM and Head, HV., 2018, Lithostratigraphy of the Clarens Formation (Stormberg Group, Karoo Supergroup), South Africa. South African Journal of Geology, 121.1, 119-130

Ellisras 2326: 1: 250 000 Geological Map. Council for Geosciences, Pretoria.

Kitching, J.W. and Raath, M.A., 1984. Fossils from the Elliot and Clarens Formations (Karoo Sequence) of the northeastern Cape, Orange Free State and Lesotho, and a suggested biozonation based on tetrapods. Palaeontologia africana, 25, 111-125.

Sahris Palaeosensitivity Map: <https://sahris.sahra.org.za/map/palaeo>

## 11. DETAILS OF SPECIALIST

### **Dr Alan Smith**

**Private Consultant: Alan Smith Consulting, 29 Brown's Grove, Sherwood, Durban, 4091  
&**

**Honorary Research Fellow: Discipline of Geology, School of Agriculture, Earth and Environmental Sciences, University of KwaZulu-Natal, Durban.**

**Role:** Specialist Palaeontological Report production

### **Expertise of the specialist:**

- PhD in Geology (University of KwaZulu-Natal), Pr. Sc. Nat., I.A.H.S.
- Expert in Vryheid Formation (Ecca Group) in northern KZN, this having been the subject of PhD.
- Scientific Research experience includes: Fluvial geomorphology, palaeoflood hydrology, Cretaceous deposits.
- Experience includes understanding Earth Surface Processes in both fluvial and coastal environments (modern & ancient).
- Alan has published in both national and international, peer-reviewed journals. He has published + 50 journal articles with 497 citations (detailed CV available on request).
- Attended and presented scientific papers and posters at numerous international and local conferences (UK, Canada, South Africa) and is actively involved in research.

Selected recent palaeo-related work includes:

- Desktop PIA: Proposed middle income housing units on Portion 23 of Farm Lot H Weston 13026, Bruntville, Mpofana Local Municipality. Client: UMLANDO.
- Desktop PIA: Proposed ByPass Pipeline for Ulundi bulk water pipeline upgrade. Client: UMLANDO.
- Fieldwork PIA: Bhekuzulu Epangweni KZN water reticulation project, Cathkin Park. Client: Mike Webster, HSG Attorneys.
- Fieldwork PIA: Mpungoze water supply scheme, Empangeni. Client: Enviropro.
- Fieldwork PIA: Helpmekaar Dam. Client: Afzelia environmental consultants.
- Desktop PIA: Zuka valley, Ballito. Client: Mike Webster, HSG Attorneys.
- Mevamhlope proposed quarry palaeontology report. Client: Enviropro.
- Desktop PIA: Proposed Lovu Desalination site. Client: eThembeni Cultural Heritage.
- Desktop PIA: Tinley Manor phase 2 North & South banks: eThembeni Cultural Heritage
- Desktop PIA: Tongaat. Client: eThembeni Cultural Heritage.
- Palaeontological Assessment Reports (3) to Scatec Solar SA (Pty) Ltd on an Appraisal of Inferred Palaeontological Sensitivity for a Potential Photo Voltaic Park at (1) Farm Rooilyf near Groblersshoop, N Cape; (2) Farm Riet Fountain No. Portions 1 and 6, 18km SE of De Aar, N Cape; and (3) Dreunberg, near Burgersdorp, Eastern Cape. Client: Sustainable Development Projects.

**APPENDIX E9: VISUAL IMPACT ASSESSMENT**



63 Wessel Road, Rivonia, 2128 PO Box 2597, Rivonia, 2128 South Africa  
Tel: +27 (0) 11 803 5726 Fax: +27 (0) 11 803 5745 Web: www.gcs-sa.biz

# Lephalale Solar: Visual Impact Assessment

## Report

Version: Final

19 August 2021

K2021699383 (South Africa) (PTY) Ltd

GCS Project Number: 21-0037

Client Reference: PR-CLI-001

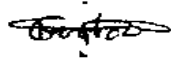





## Lephalale Solar: Visual Impact Assessment

Report  
Version: Final

19 August 2021

### DOCUMENT ISSUE STATUS

Report Issue	Final		
GCS Reference Number	21-0037		
Zutari Reference Number	1001395-G040-REP-NN-006		
Title	Lephalale Solar: Visual Impact Assessment		
	Name	Signature	Date
Author	Nakéla Naidoo		August 2021
Document Reviewer	Sanja Erwee		August 2021
Document Review and Sign-off	Stephen van Staden		August 2021
Director	Magnus Van Rooyen		August 2021

### LEGAL NOTICE

This report or any proportion thereof and any associated documentation remain the property of GCS until the mandator effects payment of all fees and disbursements due to GCS in terms of the GCS Conditions of Contract and Project Acceptance Form. Notwithstanding the aforesaid, any reproduction, duplication, copying, adaptation, editing, change, disclosure, publication, distribution, incorporation, modification, lending, transfer, sending, delivering, serving or broadcasting must be authorised in writing by GCS.



## EXECUTIVE SUMMARY

K2021699383 (South Africa) Proprietary Limited (the applicant) proposes to utilize solar energy to generate electricity to supply the Grootegeluk Coal Mine located in Lephalale, Limpopo, South Africa. The proposed project (Lephalale Solar) would entail the development of a Photovoltaic (PV) solar plant up to 256 hectares (ha) in extent with a generation capacity of approximately 100 Megawatt peak (MWp). The proposed solar plant will be located on the remainder of Farm Appelvlakte 448, situated adjacent to the existing Grootegeluk Coal Mine and approximately 15 kilometres (Km) northwest of the town Lephalale within the Limpopo Province. The town of Marapong is the nearest town and is located approximately 3 Km south of the proposed site. The Lephalale Solar area falls within the Lephalale Local Municipality and the Waterberg District Municipality.

The infrastructure associated with Lephalale Solar will comprise of Solar PV panels, onsite and tie-in substations, a 132 Kilovolt (kV) transmission line and additional ancillary activities/infrastructure. The development of the proposed solar plant could potentially have an adverse effect on the landscape character and visual aesthetics of the surrounding environment due to its size. The need therefore exists for a Visual Impact Assessment (VIA) to investigate any visual impacts that may be caused by the proposed project. GCS (Pty) Ltd (GCS) have been appointed to conduct the abovementioned VIA which will form part of the Environmental Impact Assessment (EIA) process.

The VIA examined the characteristics of the receiving environment and completed a visibility analysis which informed the overall level of potential visual impact that may be caused by the proposed solar plant. Relevant mitigation measures were recommended based on the identified potential visual impacts.

The evaluation of the receiving environment indicated that the area surrounding the proposed solar plant comprises of existing industrial and mining features, built up areas and homesteads. Within this region is also the presence of natural bushveld which can be consistently seen throughout the proposed study area and the surrounding areas. The presence of existing industrial and mining activities and the natural bushveld make up the area's current sense of place. Considering these aspects, the proposed solar plant's impact on the area's current sense of place is expected to be low throughout its lifespan.

The area was categorized as an area of moderate Visual Absorption Capacity (VAC) due to the partial screening by existing vegetation as well as the presence of mining and industrial activities. The Visual Intrusion expected from the proposed development was categorized as

low as the proposed solar plant is expected to blend in with the existing industrial surroundings.

Sensitive receptors within the receiving environment were identified and grouped as high and moderate sensitive receptors. The high sensitive receptors are considered the key receptors due to the type of receptor and their proximity to the study area. The key sensitive receptors identified for this study were the surrounding towns, homesteads, private nature reserves and the surrounding roads.

Potential light pollution impacts from the proposed solar plant on the surrounding areas were also examined. The proposed Lephalale Solar project intends to be operational at night and therefore will require night-time lighting from security lights, lighting masts, interior lighting, mobile lighting plants, construction vehicles and Light Delivery Vehicles (LDV's). The area immediately surrounding the study area has existing night-time lighting sources from the mining areas, industrial areas and built-up areas. This implies that the new lighting sources from the proposed solar plant are expected to have a limited impact on the residents of the area who currently experience light pollution from the existing activities.

A visibility analysis was conducted on the proposed infrastructure which were considered to be the most visually intrusive components of the project, namely; the PV Panels, the onsite and tie-in substations and the proposed transmission line. Based on the cumulative visibility results, it was evident that no receptors located to the west of the site will have a significant view of the proposed infrastructure. The results indicated that the visibility of the proposed solar plant will be restricted mostly to the eastern areas of the development, especially the town of Marapong, the Lephale Marapong Housing area and the secondary road between the mine dump and slimes dam. However, it remains important to note that the moderate VAC levels of the existing vegetation and the presence of the existing mining and industrial activities within the area will partially screen the proposed development from the sensitive receptors.

Based on the above results, the potential visual impacts from the proposed development were rated using a standard impact rating system for use in the overall EIA. The potential impacts were rated for each phase of the proposed project. The rating of each impact also took into consideration the current sense of place of the study area as well as the study area's VAC. Suitable recommendations were thereafter developed to help mitigate the identified potential impacts.

Overall, the impact assessment indicated that the proposed development will be of medium negative significance before mitigation is implemented for the construction, operational and parts of the decommissioning stages. These potential visual impacts relate to the potential change in sense of place, landscape visual change, dust creation and light pollution. Once the recommended mitigation measures are implemented, these impacts can be lowered to a low negative impact. However, it is difficult to fully mitigate the visual impact of the proposed PV Panels due to their surface area and colour however, the recommended mitigation measures (if adhered to) can lower these impacts. Key mitigation measures include implementing visual screens (such as trees, shrubs or hedges) along the perimeter of the proposed solar plant and ensuring that the PV panels are maintained in a visually acceptable state at all times.

At decommissioning, it is expected that all main infrastructure will be removed, and the area will be rehabilitated appropriately. The visual impacts caused by the decommissioning stage with regards to rehabilitation is seen as a positive impact and it is recommended that the area be returned to its natural state as far as possible. Dust suppression and monitoring of revegetated/rehabilitated areas should also be conducted at least quarterly for one-year after the closure of the facility. This will ensure that sensitive receptors experience limited exposure to any dust until the areas are completely rehabilitated.

Mitigation measures relating specifically to the impacted sensitive receptors i.e. the Lephalale Marapong Housing area, Marapong town, specific homesteads and the secondary road between the mine dump and slimes dam include constructing a visual berm on the border of the proposed firebreaks along the entire proposed perimeter fence in order to partially screen and soften the potential visual impacts of the proposed solar plant on these receptors.

From a cumulative perspective, it is important to note that the proposed solar plant is expected to blend in with the existing industrial and mining features due to its close proximity to these structures. The moderate VAC of the bushveld vegetation and the existing activities will aid in lowering the solar plant's potential visual impact. Furthermore, the sensitive receptors are currently exposed to night lighting and operational activities from the existing mining and industrial activities within the area. Therefore, the expected impacts from the solar plant will add to the cumulative visual impacts however, it will not be significant should the recommended mitigation measures be adhered to.

Overall, the VIA demonstrates that the proposed Lephalale Solar project can be successfully accommodated and assimilated into the surrounding landscape without causing significant harm to the landscape character or visual amenity of the area, provided that the

recommended mitigation measures are adhered to. Furthermore, the proposed project keeps in line with the development plan of the area which is to facilitate economic and mining development processes within the municipality and create the potential to be the national pioneers in the Green Economy. Lastly, it is recommended that should the designs/heights or the locations of the proposed infrastructure be altered, an updated VIA should be completed to include the new designs for a more accurate VIA.

## PROJECT COMPLIANCE

REQUIREMENT	STATUS
1. A specialist report prepared in terms of these Regulations must contain–	
(a) details of–	
(i) the specialist who prepared the report; and	✓
(ii) the expertise of that specialist to compile a specialist report including a curriculum vitae;	✓
(b) a declaration that the specialist is independent in a form as may be specified by the competent authority;	✓
(c) an indication of the scope of, and the purpose for which, the report was prepared;	✓
(cA) an indication of the quality and age of base data used for the specialist report;	✓
(cB) a description of existing impacts on the site, cumulative impacts of the proposed development and levels of acceptable change;	✓
(d) the duration, date and season of the site investigation and the relevance of the season to the outcome of the assessment;	✓
(e) a description of the methodology adopted in preparing the report or carrying out the specialised process inclusive of equipment and modelling used;	✓
(f) details of an assessment of the specific identified sensitivity of the site related to the proposed activity or activities and its associated structures and infrastructure, inclusive of a site plan identifying site alternatives;	✓
(g) an identification of any areas to be avoided, including buffers;	N/A
(h) a map superimposing the activity including the associated structures and infrastructure on the environmental sensitivities of the site including areas to be avoided, including buffers;	N/A
(i) a description of any assumptions made and any uncertainties or gaps in knowledge;	✓
(j) a description of the findings and potential implications of such findings on the impact of the proposed activity or activities;	✓
(k) any mitigation measures for inclusion in the EMPr;	✓
(l) any conditions for inclusion in the environmental authorisation;	✓
(m) any monitoring requirements for inclusion in the EMPr or environmental authorisation;	✓
(n) a reasoned opinion–	
(i) whether the proposed activity, activities or portions thereof should be authorised;	✓
(iA) regarding the acceptability of the proposed activity or activities; and	✓
(ii) if the opinion is that the proposed activity, activities or portions thereof should be authorised, any avoidance, management and mitigation measures that should be included in the EMPr, and where applicable, the closure plan;	✓
(o) a description of any consultation process that was undertaken during the course of preparing the specialist report;	✓
(p) a summary and copies of any comments received during any consultation process and where applicable all responses thereto; and	N/A
(q) any other information requested by the competent authority.	N/A

## CONTENTS PAGE

<b>EXECUTIVE SUMMARY .....</b>	<b>III</b>
<b>1 INTRODUCTION .....</b>	<b>1</b>
<b>2 PROJECT DESCRIPTION .....</b>	<b>4</b>
<b>3 REPORT OVERVIEW AND SCOPE OF WORK .....</b>	<b>6</b>
<b>4 SPECIALIST DETAILS .....</b>	<b>6</b>
<b>5 SPECIALIST DECLARATION OF INTEREST .....</b>	<b>7</b>
<b>6 LEGAL FRAMEWORK.....</b>	<b>8</b>
<b>7 INFORMATION AND DATA SOURCES .....</b>	<b>9</b>
<b>8 CORRESPONDENCE.....</b>	<b>9</b>
<b>9 ASSUMPTIONS AND LIMITATIONS.....</b>	<b>9</b>
<b>10 METHODOLOGY .....</b>	<b>10</b>
10.1 BACKGROUND INVESTIGATIONS .....	10
10.2 SITE VISIT.....	11
10.3 DESKTOP STUDY.....	11
<b>11 LEVEL OF ASSESSMENT .....</b>	<b>12</b>
<b>12 RESULTS OF THE VISUAL ASSESSMENT .....</b>	<b>13</b>
12.1 PUBLIC PARTICIPATION .....	13
12.2 DESCRIPTION OF THE RECEIVING ENVIRONMENT .....	14
12.2.1 <i>Topography</i> .....	14
12.2.2 <i>Vegetation</i> .....	17
12.2.3 <i>Land Cover and Land Use</i> .....	20
12.2.4 <i>Climate</i> .....	24
12.2.5 <i>Sense of Place/Landscape Character</i> .....	25
12.2.6 <i>Sensitive Receptors</i> .....	28
12.2.7 <i>Visual Absorption Capacity and Visual Intrusion</i> .....	35
12.2.8 <i>Night-time Lighting</i> .....	37
12.2.9 <i>Visibility, Visual Exposure and Line of Sight</i> .....	38
<b>13 OVERALL MAGNITUDE OF VISUAL IMPACT .....</b>	<b>53</b>
<b>14 IMPACT ASSESSMENT DISCUSSION AND MITIGATION MEASURES .....</b>	<b>56</b>
14.1 CONSTRUCTION PHASE .....	56
14.2 OPERATIONAL PHASE .....	58
14.3 DECOMMISSIONING AND REHABILITATION PHASES.....	60
14.4 MITIGATION MEASURES SPECIFIC TO CRITICAL RECEPTORS .....	61
<b>15 CONCLUSIONS AND RECOMMENDATIONS .....</b>	<b>62</b>

## LIST OF APPENDICES

**APPENDIX A: SPECIALIST CV'S**

**APPENDIX B: NEMA: EIA REGULATIONS (2014, AS AMENDED)**

**APPENDIX C: CATEGORIES OF DEVELOPMENT AS PER OBERHOLZER (2005)**

**APPENDIX D: LEVELS OF VISUAL IMPACT AS PER OBERHOLZER (2005)**

**APPENDIX E: KEY APPROACHES AND METHODS OBERHOLZER (2005)**

**APPENDIX F: DETAILED IMPACT ASSESSMENT/MATRIX**

## LIST OF FIGURES

Figure 1-1: Lephalale Solar Regional Locality Map .....	2
Figure 1-2: Lephalale Solar General Study Area .....	3
Figure 2-1: Lephalale Solar Proposed Site Layout .....	5
Figure 12-1: Lephalale Solar Topography Map .....	16
Figure 12-2 Lephalale Solar Vegetation Map .....	19
Figure 12-3: Lephalale Solar Land Cover .....	21
Figure 12-4: Google Earth Imagery showing the industrial activities underling parts the Tierkop Private Nature Reserve as at 05/11/2020 (Google Earth™ mapping service: 2021) .....	23
Figure 12-5: Monthly Average Rainfall Graph for Marapong: Previous 30 years (Meteoblue, 2021) .....	24
Figure 12-6: Lephalale Solar Identified Potential Receptors .....	29
Figure 12-7: Effect of Distance on Visual Exposure (NEWLA, 2014) .....	38
Figure 12-8: Lephalale Solar Modelled Infrastructure .....	41
Figure 12-9: 3D Simulation of the proposed infrastructure in relation to the existing Grootegeluk Coal Mine and the Lephale Marapong Housing .....	42
Figure 12-10: Proposed PV Panels Viewshed Results .....	44
Figure 12-11: Proposed Onsite Substation Viewshed Results .....	46
Figure 12-12: Proposed Tie-in Substation Viewshed Results .....	48
Figure 12-13: Proposed 132 kV Transmission Line Viewshed Results .....	50
Figure 12-14 Viewshed Analysis for the cumulative effects of the proposed infrastructure .....	52

## LIST OF TABLES

Table 4-1: Specialist Details .....	7
Table 11-1: Categorisation of visual impacts (Oberholzer, 2005) .....	13
Table 12-1: Distance of High Sensitivity Sensitive Receptors to the Proposed Project .....	30
Table 12-2: Distance of Moderate Sensitivity Sensitive Receptors to the Proposed Project .....	33
Table 12-3: Proposed Infrastructure associated with the Lephalale Solar Plant .....	39
Table 13-1: Impact Significance Ratings .....	53
Table 13-2: Irreplaceability of resource caused by impacts .....	53
Table 13-3: Reversibility of impacts .....	53
Table 13-4: Impact Rating Table .....	54

## LIST OF PHOTOS

Photo 12-1: Current Study Area .....	14
Photo 12-2: Photo taken from Manketti Lodge (approximately 3 Km from the study area) looking towards the study area .....	15
Photo 12-3: Photo taken from Marapong (approximately 3 Km from the study area) looking towards the study area .....	15
Photo 12-4: Taken from the water treatment plant (approximately 500 m away from the study area) looking towards the study area .....	17
Photo 12-5: Taken Lephalale Marapong Housing (approximately 2 Km away from the study area) looking towards the study area .....	18
Photo 12-6: Aerial view of specific current landcover surrounding the proposed solar plant (July 2021) .....	22
Photo 12-7: Entrance of the Lephale Marapong Housing Residential Area (11 <sup>th</sup> June 2021) .....	22
Photo 12-8: Low-cost housing in Marapong .....	26
Photo 12-9: Existing Transmission Line visible from Lephale Marapong Housing .....	26
Photo 12-10: Existing Matimba Power Station (approximately 3 Km south of the proposed site) .....	27
Photo 12-11: Bushveld Vegetation on and surrounding the study area .....	27
Photo 12-12: Current view of the study area from Marapong .....	31
Photo 12-13: Current view of the study area from Lephale Marapong Housing .....	31
Photo 12-14: Current view of the study area from Onverwacht .....	31



Photo 12-15: Current view of the study area from the outskirts of Lephalale ..... 31  
Photo 12-16: Current view of the study area from the R510 main road ..... 33  
Photo 12-17: Current view of the study area from the Water Treatment Plant ..... 34  
Photo 12-18: Current view of the study area from the Manketti Lodge..... 34  
Photo 12-19: Matimba Power Station somewhat screened by the existing vegetation ..... 36  
Photo 12-20: Powerlines partially screened by existing vegetation ..... 36

---

## LIST OF ACRONYMS AND ABBREVIATIONS

3D	Three-dimensional
ALOS	Advanced Land Observing Satellite
BESS	Battery Energy Storage System
DFFE	Department of Forestry Fisheries and the Environment
EA	Environmental Authorisation
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
GIS	Geographic Information Systems
GCS	GCS Water and Environmental Consultants (Pty) Ltd
Ha	Hectares
I&Aps	Interested and Affected Parties
IDP	Integrated Development Plan
IDSA	International Dark-Sky Association
JAXA	Japan Aerospace Exploration Agency
Km	Kilometre
kV	Kilovolt
LDV	Light Delivery Vehicle
m	Meter
mamsl	Meters Above Mean Sea Level
MWp	Megawatt peak
NEMA	National Environmental Management Act
PV	Photovoltaic
SANBI	South African National Biodiversity Institute
StatsSA	Statistics South Africa
VAC	Visual Absorption Capacity
VIA	Visual Impact Assessment

## 1 INTRODUCTION

K2021699383 (South Africa) Proprietary Limited (the applicant) proposes to utilize solar energy to generate electricity to supply the Grootegeluk Coal Mine located in Lephalale, Limpopo, South Africa. The proposed project (Lephalale Solar) would entail the development of a Photovoltaic (PV) solar plant up to 256 hectares (ha) in extent with a generation capacity of approximately 100 Megawatt peak (MWp). The proposed solar plant will be located on the remainder of Farm Appelvlakte 448, situated adjacent to the existing Grootegeluk Coal Mine and approximately 15 kilometres (Km) northwest of the town Lephalale within the Limpopo Province. The area falls within the Lephalale Local Municipality and the Waterberg District Municipality. Figure 1-1 and Figure 1-2 overleaf shows the regional locality and the general study area of the proposed development.

The infrastructure associated with Lephalale Solar will comprise of Solar PV panels, Substations, a 132 Kilovolt (kV) transmission line and additional ancillary activities/infrastructure. The development of the proposed solar plant could potentially have an adverse effect on the landscape character and visual aesthetics of the surrounding environment. The need therefore exists for a Visual Impact Assessment (VIA) to investigate any visual impacts that may be caused by the proposed project. GCS (Pty) Ltd (GCS) have been appointed to conduct the abovementioned VIA which will form part of the Environmental Impact Assessment (EIA) process.

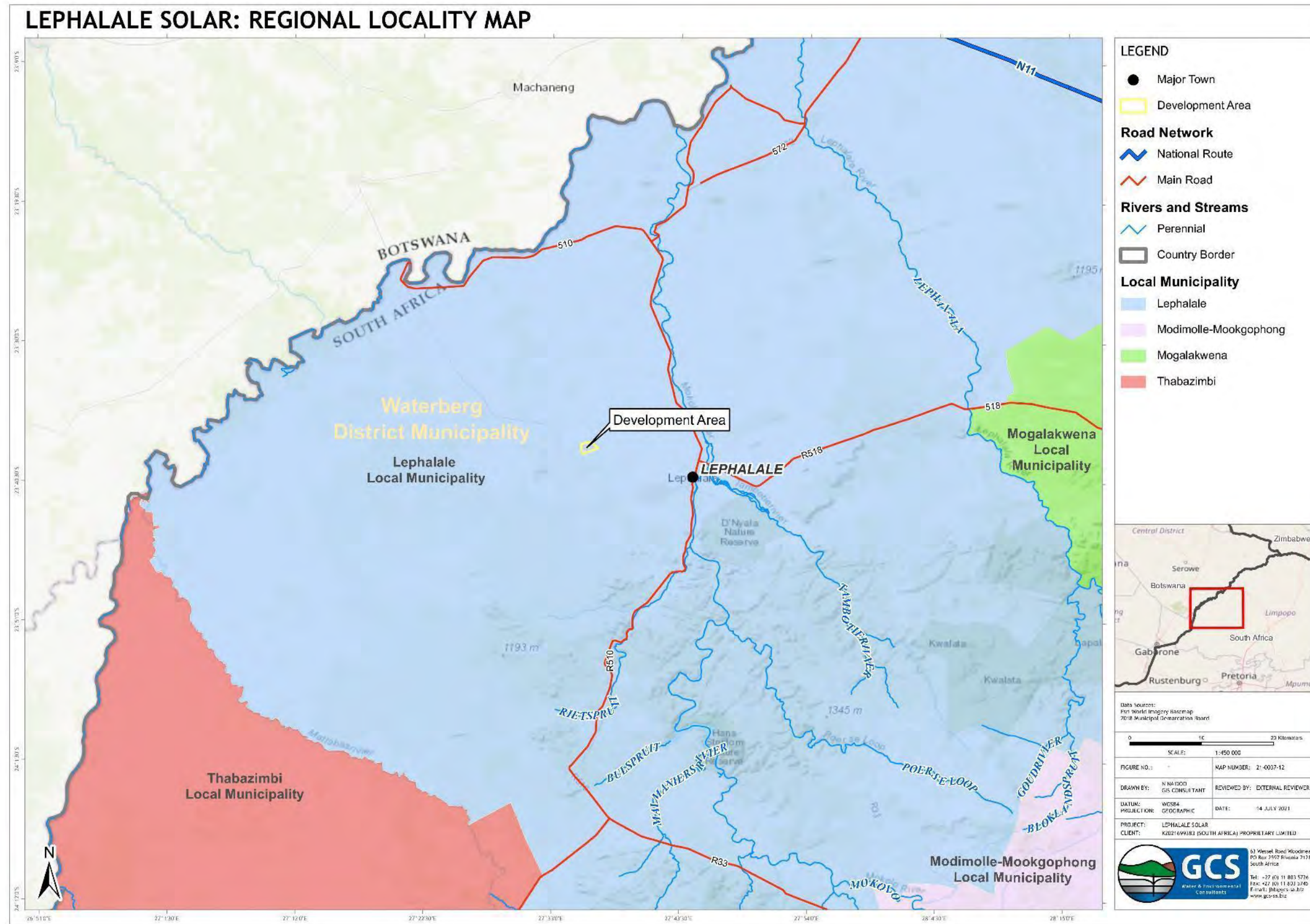


Figure 1-1: Lephalale Solar Regional Locality Map



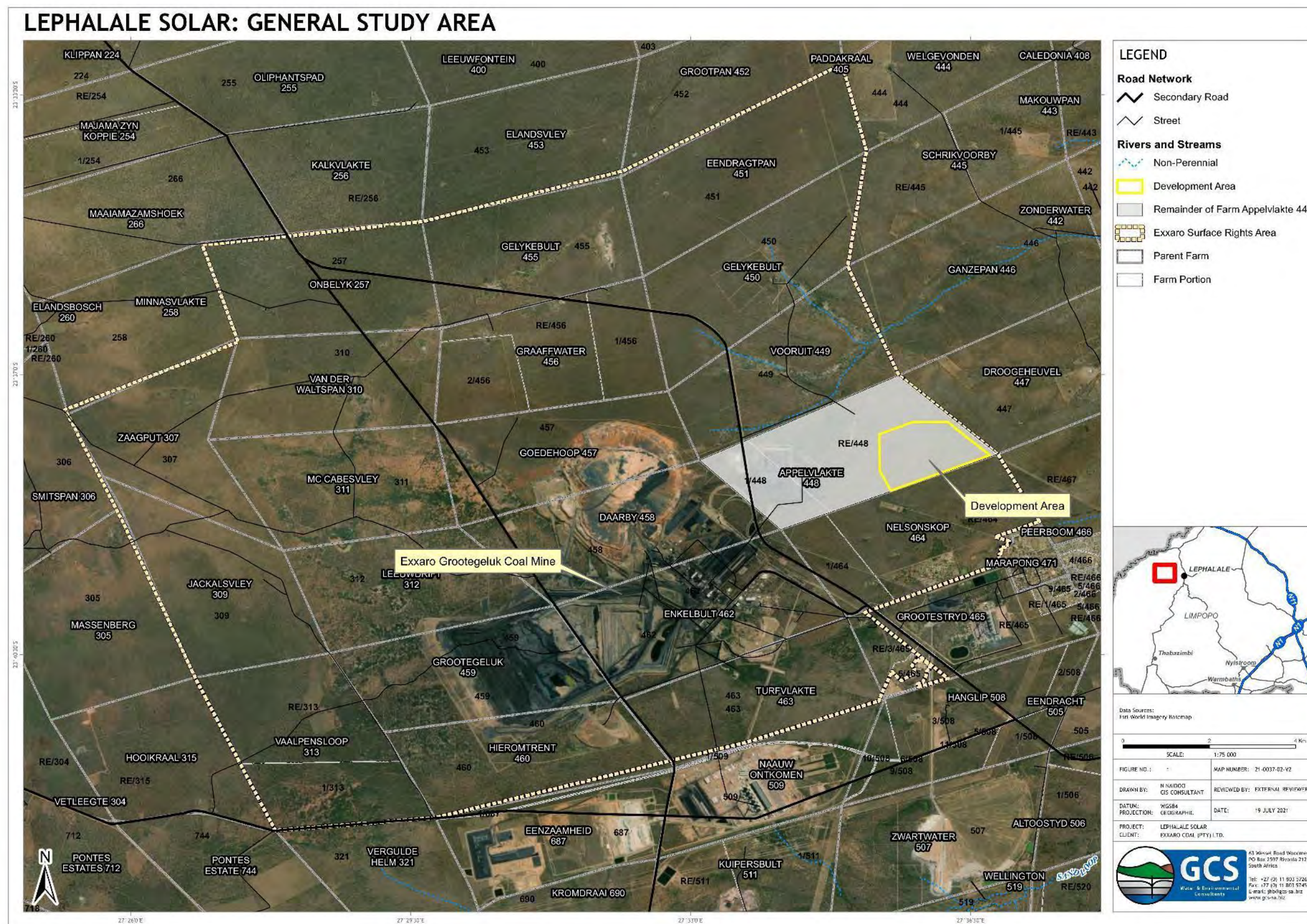


Figure 1-2: Lephalale Solar General Study Area



## 2 PROJECT DESCRIPTION

The applicant proposes to generate electricity from the solar energy resource using PV panels and supply this electricity to the existing Grootegeluk Coal Mine. The solar field and the project associated infrastructure are listed below and shown in Figure 2-1 overleaf.

The proposed project would entail the development of a PV solar power plant up to 256 hectares in extent with a generation capacity of approximately 100 MWp covering the entire study area. The final capacity would be dependent on ongoing development of photovoltaic technologies, as more efficient modules may become available by the time that the project would commence. The development footprint is approximately 256 hectares, however the generation capacity may vary based on the availability of more efficient PV panels. It is also important to note that the final detailed designs of the infrastructure will be produced after the applicant receives the Environmental Authorisation (EA) for the development. The solar facility will consist of the follow components:

- Solar PV panels,
- Steel support structure and tracker system on concrete foundations,
- Inverter stations as part of the PV field,
- Transformers, switchgear and related equipment as part of the Substations, and
- Internal roads.

The project associated infrastructure will consist of the following components:

- Substation complex (33/132 kV) including control rooms and grid control yards (Onsite Substation),
- Existing Grootegeluk substation upgrades (Tie in),
- 132 kV transmission line and transmission towers,
- Battery Energy Storage System (BESS),
- Operations and maintenance buildings,
- Borehole and water treatment plant,
- Access roads,
- Internal roads,
- Perimeter fencing,
- Access control gate,
- Security building,
- Temporary concrete batching facility,
- Temporary offices for the construction period,
- Construction yard, and
- Laydown area.



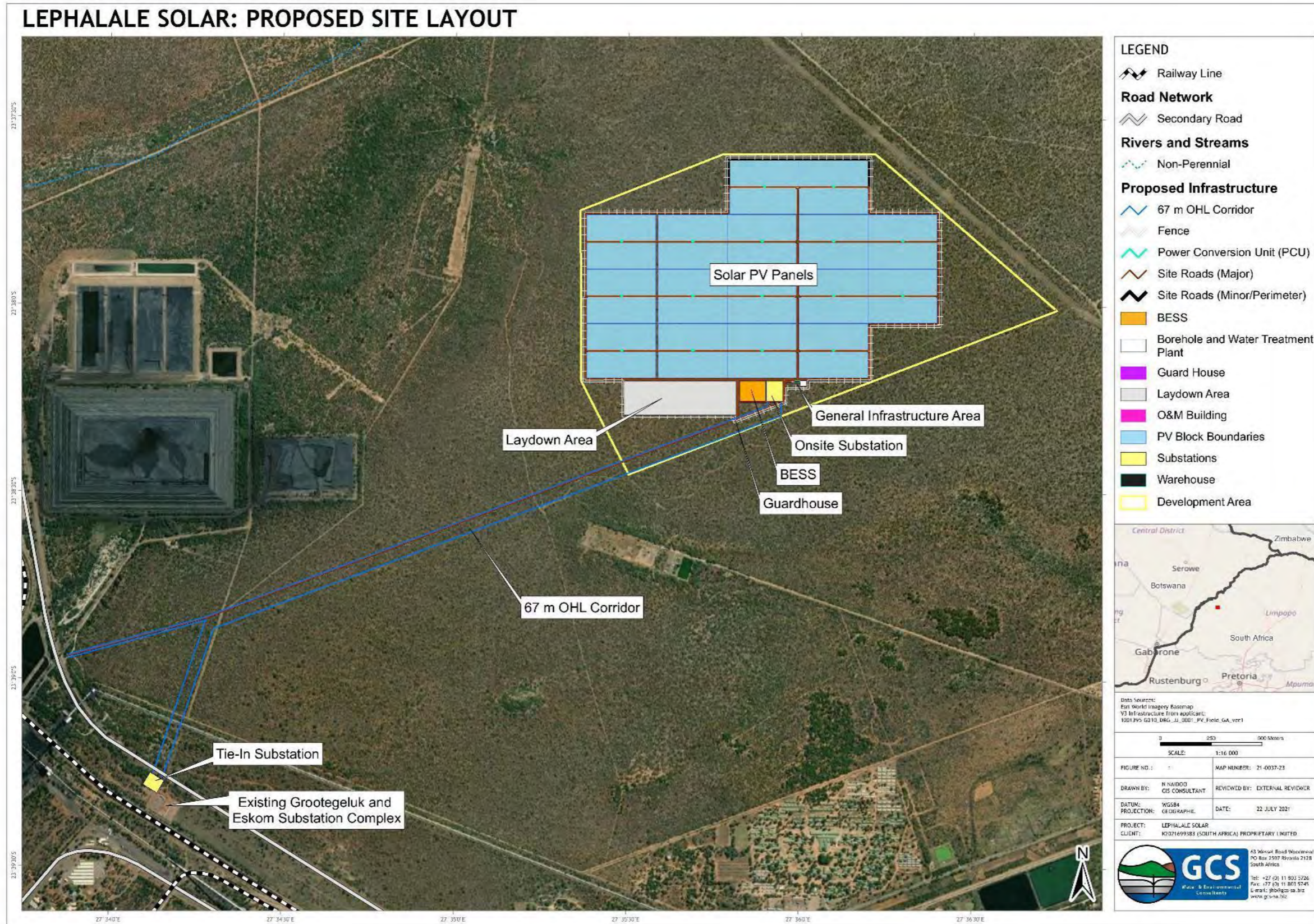


Figure 2-1: Lephalale Solar Proposed Site Layout



### 3 REPORT OVERVIEW AND SCOPE OF WORK

The scope of work entails a comprehensive visual assessment of all the activities associated with the proposed development. This includes:

- **Legal Framework** - Description of any local South Africa laws that prohibit or regulate the proposed mining activities as a result of specific zoning, height or visual intrusion/pollution used in this assessment.
- **Adopted International Standards and Guidelines** - Description of international regulations or best practice guidelines that were used in this assessment.
- **Information and data Sources** - Summary of the various sources of information used to compile this assessment and any associated gaps/limitations associated with such data sources.
- **Assumptions and Limitations** - Description of the assumptions and limitations associated with this report.
- **Description of the Receiving Environment**- Description of the following criteria that will determine the current status of the surrounding visual environment, including brief descriptions of the visual character, landscape quality, sense of place and quality of visual resource of the immediate and surrounding proposed solar plant.
- **Impact Identification and Description** - Identification of any major impacts associated with the proposed activity on surrounding receptors (residents, motorists, and tourists). These impacts are based on visual modelling results and factors including the Visual Absorption Capacity, Visibility and Visual Exposure, Sensitive Receptors and the Visual Distance of Sensitive Receptors from the proposed activity; and the Magnitude/Intensity of Visual Impact.
- **Mitigation of Impacts** - Identification of the most feasible and practical way of mitigating any potential impacts on sensitive receptors. There are two categories of mitigation that will be identified in this section of the report.
  - General (Generic) mitigation measure used to limit the visual impact of the activity; and
  - Mitigation for specific critical receptors identified.
- **Proposed Environmental Management Plan (EMP) Control and Monitoring Plan** - Description of a necessary plan that needs to be adopted to mitigate potential impacts resulting from the proposed activity and the associated ways in which the effectiveness of such measures can be monitored.

### 4 SPECIALIST DETAILS

Table 4-1 details the individuals who were involved in the compilation of this report. Refer to **Appendix A** for the relevant Curriculum Vitae.

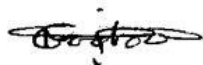
Table 4-1: Specialist Details

Name	Responsibility	Years of Experience
Nakéla Naidoo (GIS Consultant - Cand.Sci.Nat.)	Author, project management	4
Stephen van Staden (External Review Specialist) (Pr.Sci.Nat.)	External review of report and sign-off	12
Sanja Erwee (External Review Specialist)	External review of report	5
Magnus Van Rooyen (Pr.Sci.Nat.)	Director review and sign-off	13

## 5 SPECIALIST DECLARATION OF INTEREST

I, Nakéla Naidoo declare that -

- I act as the independent specialist in this Visual Impact Assessment (VIA) study;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- All the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of Regulation 71 and is punishable in terms of section 24F of the Act.



Signature of the specialist

*Visual Impact Assessment*

Specialist field

---

*GCS (PTY) Ltd*

---

Name of company

---

*July 2021*

---

Date

## 6 LEGAL FRAMEWORK

The 'Guideline for involving visual & aesthetic specialists in EIA processes', by Oberholzer (2005) has been developed to provide guidelines and general good practices for the specialist visual input into the EIA process in South Africa. According to Oberholzer (2005), the current South African environmental legislation governing EIA processes, which may include consideration of visual impacts if this is identified as a key issue of concern, is the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA). Therefore, this report was compiled in accordance with Appendix 6 of NEMA: Environmental Impact Assessment (EIA) Regulations (2014, as amended), which specifies the minimum specialist report requirements for an EIA. Please refer to **Appendix B** of this report for a copy of the NEMA: EIA Regulations (2014, as amended).

According to Oberholzer (2005), the following legal frameworks, acts and guidelines are also applicable to VIA's:

- The National Heritage Resources Act, 1999 (Act No. 25 of 1999) provides legislative protection for listed or proclaimed sites, such as urban conservation areas, nature reserves and proclaimed scenic routes and requires that these areas are protected against physical and aesthetic change. According to the 2021 first quarter South Africa Protected Areas Database released by the Department of Forestry, Fisheries and the Environment (DFFE) in June 2021, the proposed development area is situated approximately 8 Km northeast of the Tierkop Private Nature Reserve. Other nature reserves within the area are situated further than 10 Km of the proposed solar plant.
- The Protected Areas Act (NEMA) (Act 57 of 2003, Section 17) is also intended to protect natural landscapes.
- Visual pollution is controlled, to a limited extent, by the Advertising on Roads and Ribbons Act (Act No. 21 of 1940), which deals mainly with signage on public roads.
- In terms of the Municipal Systems Act, (Act 32 of 2000) it is compulsory for all municipalities to go through an Integrated Development (IDP) planning process to prepare a five-year strategic development plan for the area under their control. The IDP process, specifically the spatial component (Spatial Development Framework), is for some areas based on a bioregional planning approach to achieve continuity in the landscape and to

maintain important natural areas and ecological processes. The 2021/2022 Final Reviewed Noted Draft IDP for the Lephalale Municipality was available at the time of this report.

According to the 2021/2022 Lephalale Municipality IDP, the municipality is obliged to facilitate economic and mining development processes by building networks and promoting good working relations within the sector and have the potential to be the national pioneers in the Green Economy. The municipality is also considered to be in a perfect geographic situation to develop renewable energy industries and economies of scale. Therefore, the proposed Lephalale Solar Plant fits in with the Green Economy goals of Lephalale.

- Visual and aesthetic resources are also protected by local authorities where policies and by-laws relating to urban edge lines, scenic drives, special areas, signage, communication masts, etc. may have been formulated.
- Other decision-making authorities such as the Department of Minerals and Energy, or the local authorities, in terms of their particular legislative frameworks, may also require visual impact assessments to support informed decision-making.

## 7 INFORMATION AND DATA SOURCES

The study was conducted using the following base information:

- The Advanced Land Observing Satellite (ALOS) 30 m Global Digital Surface Model, supplied by the Japan Aerospace Exploration Agency (JAXA)
- The Department of Environmental Affairs National Landcover Dataset (2020);
- Statistics South Africa (StatsSA) 2016 Dwelling Frame; and
- Layouts in drawing format supplied by the applicant.

## 8 CORRESPONDENCE

All correspondence was done through the Project Manager who expressed all questions, concerns and requests in writing via email to the applicant. A copy of all correspondence can be provided on request.

## 9 ASSUMPTIONS AND LIMITATIONS

The following assumptions and limitations are applicable to this study:

- All viewsheds were based on terrain level. As such these viewsheds do not incorporate distractive views in the form of vegetation or land-use (infrastructure, buildings, etc.).

- The accuracy and extent of the receptors mapped relates to the accuracy of the StatsSA Dwelling Frame and the South Africa Protected Areas Database used in this study. GCS has however validated the receptor identification process by means of a field visit and satellite imagery where possible.
- This level of assessment excludes perception surveys to establish viewer preference and thereby their sensitivity. For example; localised visual perceptions of the economically depressed communities of the population may be influenced rather by the short term economic and job opportunities that will exist rather than the direct visual perception of the project.
- Some level of subjectivity is unavoidable especially in cases where the intangible value of the surrounding aesthetic environment cannot be quantified. Therefore, the report includes both quantitative and qualitative criteria in its visual assessments.
- Findings of the report are restricted to information on hand, as well as the quality of spatial data available. It is assumed that the spatial data and layout plans received from the applicant are the latest versions at the time of this study. Since the detailed designs will only be completed once the EA is received, spatial data was lacking in certain areas.
- The positions of the proposed lighting masts were not available at the time of this study therefore could not be included in the quantitative analysis. However, the proposed lighting features are addressed qualitatively.
- Only the 67 m corridor of the proposed 132 kV transmission line was available at the time of the study and no pylon positions were available. The specialist therefore quantitatively modelled the centreline of the corridor at the proposed transmission line height.

## 10 METHODOLOGY

### 10.1 Background Investigations

Upon receiving the relevant spatial data and layout designs from the applicant, a brief background investigation was undertaken to identify key landscape features that may be affected by the potential visual impacts caused by the proposed solar plant. This was conducted using available spatial data and aerial imagery. The 2016 StatsSA Dwelling Frame along with Google Earth™ mapping service: 2021 were used to identify potential viewpoints within 15 Km of the development area such as travel routes, nature reserves, recreational areas, dwellings, homesteads and built-up areas. The identified potential viewpoints were used to inform the site visit. It is assumed that the magnitude of visual impact is highest within 5 Km of an activity and decreases the further away an observer is from the activity. However, a 15 Km radius was used for this study to include parts of the R510 main road and the town of Lephalale situated east of the proposed solar plant.

## 10.2 Site Visit

The main aims of the site visit were to establish the study area's existing sense of place and to understand the potential visual sensitivities from the viewpoints identified in the background investigation. The one day site visit was undertaken on the 11th June 2021, at the start of winter season. The vegetation during this season is usually less dense than in the rainy seasons. However, the potential visual screening effects of the vegetation was still experienced.

The site visit consisted of travelling to the areas identified through the background investigation and documenting the current views from that area to the proposed development area. The specialists also travelled along publicly accessible roads to investigate and document the visual character of the surrounding area such as the topography, vegetation, current land use, etc. Geotagged photographs were taken to document the findings, which will be used to support the results. It is important to note that some of the identified potential viewpoints had restricted access and others were not comfortable with photographs being taken from specific areas. Therefore, due to safety reasons, not all potential viewpoints could be visited.

## 10.3 Desktop Study

The Oberholzer (2005) guidelines will be used as a guide for this assessment due to the lack of visual specialist guidelines within Gauteng. According to Oberholzer (2005) it is in the nature of visual and scenic resources to include abstract qualities and connotations. It is therefore necessary to include both quantitative and qualitative criteria in the current visual assessment. The quantitative aspect makes use of Geographic Information Systems (GIS) platforms, digital elevation models and satellite imagery to quantify the potential visual impact of the proposed project. The qualitative aspects mostly make use of the information gathered from the site visit in order to inform the areas sense of place, aesthetic value, landscape character, etc. Available spatial data such as land use, vegetation and topography are used to support both the qualitative analyses.

The desktop study firstly looks at the general expected level of visual impacts for various types of developments and environments which will then inform the level of visual assessment required for the study. Thereafter, the qualitative and quantitative aspects of the visual assessment will be completed in accordance with the basic components comprising an accepted methodology for a visual study provided by Oberholzer (2005) along with descriptions of the receiving environment. The components are as follows:

- Identification of issues and values relating to visual, aesthetic and scenic resources through involvement of Interested and Affected Parties (I&Aps) and the public;
- Identification of landscape types, landscape character and sense of place, generally based on geology, landforms, vegetation cover and land use patterns;
- Identification of important view points and view corridors within the affected environment, including sensitive receptors;
- Indication of distance radii from the proposed project to the various view points and receptors;
- Determination of the visual absorption capacity (VAC) of the landscape, usually based on topography, vegetation cover or urban fabric in the area;
- Determination of the relative visibility, or visual intrusion, of the proposed project;
- Identification of viewsheds, view catchment area and the zone of visual influence, generally based on topography; and
- Determination of the relative compatibility or conflict of the project with the surroundings.

Based on the results from the above desktop study and site visit, any major visual impacts associated with the proposed activity on the surrounding area will be identified and rated on a formalized impact rating system supplied by the applicant. Identification of the most feasible and practical way of mitigating the identified potential visual impacts on sensitive receptors will also be provided.

## 11 LEVEL OF ASSESSMENT

Table 11-1 depicts the general expected level of visual impacts for various types of developments and environments (Oberholzer, 2005). The environment which the proposed activity forms part of can be described as an area or route of low scenic, cultural or historical significance. In addition, the proposed activity is categorized as a *Category 5* development (refer to **Appendix C** for a key that defines the categories of development as per Oberholzer [2005]). Therefore, according to the categorisation of visual impacts below, the development and operational activity on site is expected to have a high visual impact, meaning a *Level 4 Assessment* will be required for this comprehensive visual impact assessment (Oberholzer, 2005). **Appendix D** shows a key that defines the levels of visual impact and **Appendix E** explains the recommended approach and method associated with a Level 4 Assessment as per Oberholzer (2005).

According to Oberholzer (2005) an activity categorized as having a 'high visual impact expected' has the potential to intrude on protected landscapes/scenic resources, will create a noticeable change in visual character of the area and will establish a new precedent for



development in the area. However, from the site visit it was noted that the study area and surrounding areas are currently exposed to an existing coal mine and two existing coal power stations approximately 2 Km west and 4 to 6 Km south, respectively, from the proposed solar plant. Therefore, the proposed new solar plant is not likely to set a new precedent for industrial development in the area.

**Table 11-1: Categorisation of visual impacts (Oberholzer, 2005)**

Type of environment	Type of development (Low to high intensity)				
	Category 1 development	Category 2 development	Category 3 development	Category 4 development	Category 5 development
Protected/wild areas of international, national, or regional significance	Moderate visual impact expected	High visual impact expected	High visual impact expected	Very high visual impact expected	Very high visual impact expected
Areas or routes of high scenic, cultural or historical significance	Minimal visual impact expected	Moderate visual impact expected	High visual impact expected	High visual impact expected	Very high visual impact expected
Areas or routes of medium scenic, cultural or historical significance	Little or no visual impact expected	Minimal visual impact expected	Moderate visual impact expected	High visual impact expected	High visual impact expected
Areas or routes of low scenic, cultural or historical significance / disturbed	Little or no visual impact expected. Possible benefits	Little or no visual impact expected	Minimal visual impact expected	Moderate visual impact expected	High visual impact expected
Disturbed or degraded sites / run-down urban areas / wasteland	Little or no visual impact expected. Possible benefits	Little or no visual impact expected. Possible benefits	Little or no visual impact expected	Minimal visual impact expected	Moderate visual impact expected

## 12 RESULTS OF THE VISUAL ASSESSMENT

### 12.1 Public Participation

As part of the EIA process, a public participation process is required to gauge any concerns that the public may have regarding the proposed project. This process was not yet completed at the time of the study. However, the applicant advised that to their knowledge, there have been no complaints from the public regarding the visual aspects of the adjacent Grootegeluk Coal Mine. This suggests that potential visual receptors are accustomed to the presence of already established activities within the area.

## 12.2 Description of the Receiving Environment

The following section describes the receiving environment and uses the findings from the site visit along with the documented photos to verify the desktop findings. Photo 12-1 below shows the current site of the proposed solar plant.



**Photo 12-1: Current Study Area**

### *12.2.1 Topography*

The topography of the surrounding environment can be described as flat, with an even gradient sloping gently eastwards. The elevation range of the study area ranges from approximately 811 meters above mean sea level (mamsl) to 960 mamsl within 15 Km of the proposed development area. The most prominent topographical features within 5 Km of the proposed development is the Grootegeluk Mine Dump at approximately 990 mamsl. Figure 12-1 shows the elevation of entire study area and Photo 12-2 and Photo 12-3 show the general topography of the study area from the site visit.



**Photo 12-2: Photo taken from Manketti Lodge (approximately 3 Km from the study area) looking towards the study area**



**Photo 12-3: Photo taken from Marapong (approximately 3 Km from the study area) looking towards the study area**



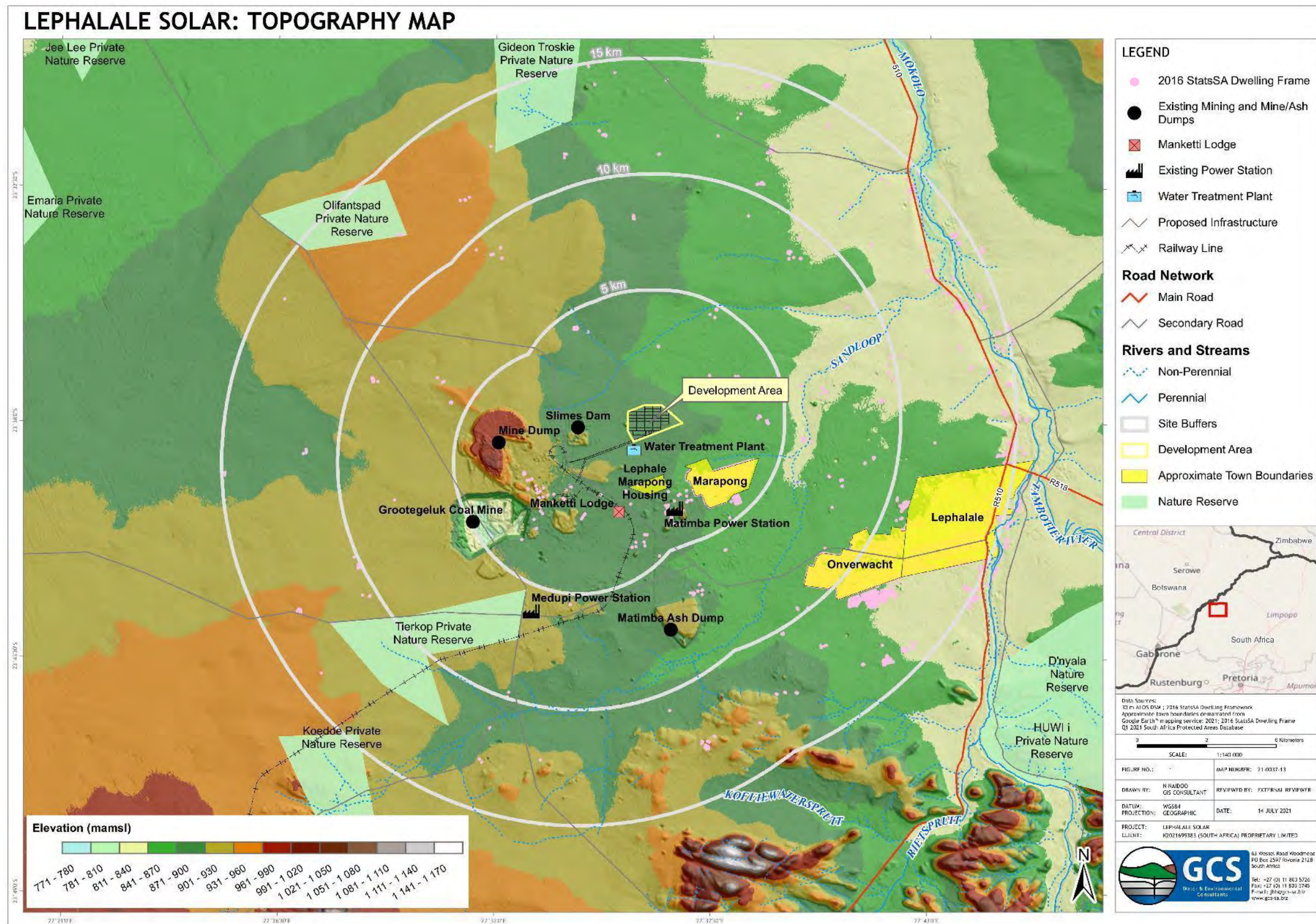


Figure 12-1: Lephalale Solar Topography Map



### 12.2.2 *Vegetation*

According to the South African National Biodiversity Institute (SANBI) beta version of the 2018 Vegetation Map, the vegetation of the surrounding environment is predominantly identified as Limpopo Sweet Bushveld across the proposed site and surrounding areas (refer to Figure 12-2). Photo 12-4 and Photo 12-5 below show the general vegetation of the area taken during the site visit. The vegetation was noted to be continuous, dense and tall and has the potential to partially screen the views of the proposed solar plant.



Photo 12-4: Taken from the water treatment plant (approximately 500 m away from the study area) looking towards the study area



**Photo 12-5: Taken Lephalale Marapong Housing (approximately 2 Km away from the study area) looking towards the study area**



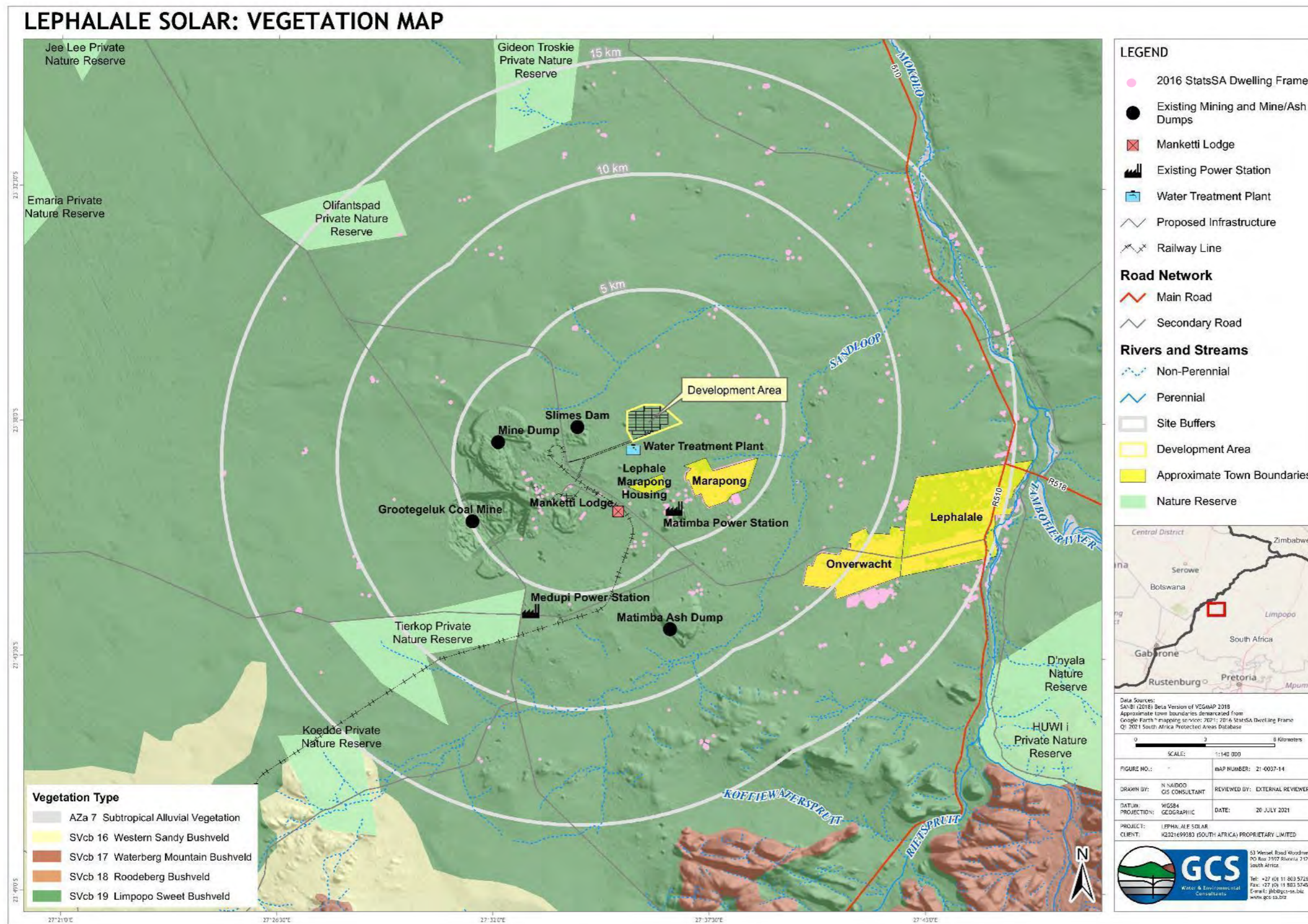


Figure 12-2 Lephalale Solar Vegetation Map



### 12.2.3 Land Cover and Land Use

Figure 12-3 indicates the landcover classes for the project area. According to the 2020 DFFE South African National Landcover Dataset, the predominant land cover within the study area and surrounding areas is Forested Land/Natural Wooded Land/Planted Forest. Patches of Natural Grassland is also found within 15 Km of the study area. Common land uses within the surrounding area include mines and quarries, built-up areas and cultivated land.

From the site visit, it was noted that the land cover represented in Figure 12-3 is still what's present today. The Grootegeluk Coal Mine and its associated mine dump and slimes dam are located directly west of the proposed solar plant. The Matimba and Medupi Coal Power Stations along with existing powerlines were also noticed. The built-up residential areas of Marapong and the Lephale Marapong Housing area were also present during the site visit. Photo 12-6 and Photo 12-7 show some of the current land cover and land uses surrounding the proposed solar plant.

It is also important to note that underlying the Tierkop Private Nature Reserve are components of mines and quarries (refer to Figure 12-3). This area forms part of the Medupi Power Station and suggests that this portion of the Nature Reserve has either been sold or approved for industrial development. Due to security reasons, the Medupi Power Station could not be visited during the site visit to verify the current land use. However, the latest aerial imagery (dated 05/11/2020), at the time of this study, from Google Earth™ mapping service: 2021 shows the current industrial activities at this area (refer to Figure 12-4).



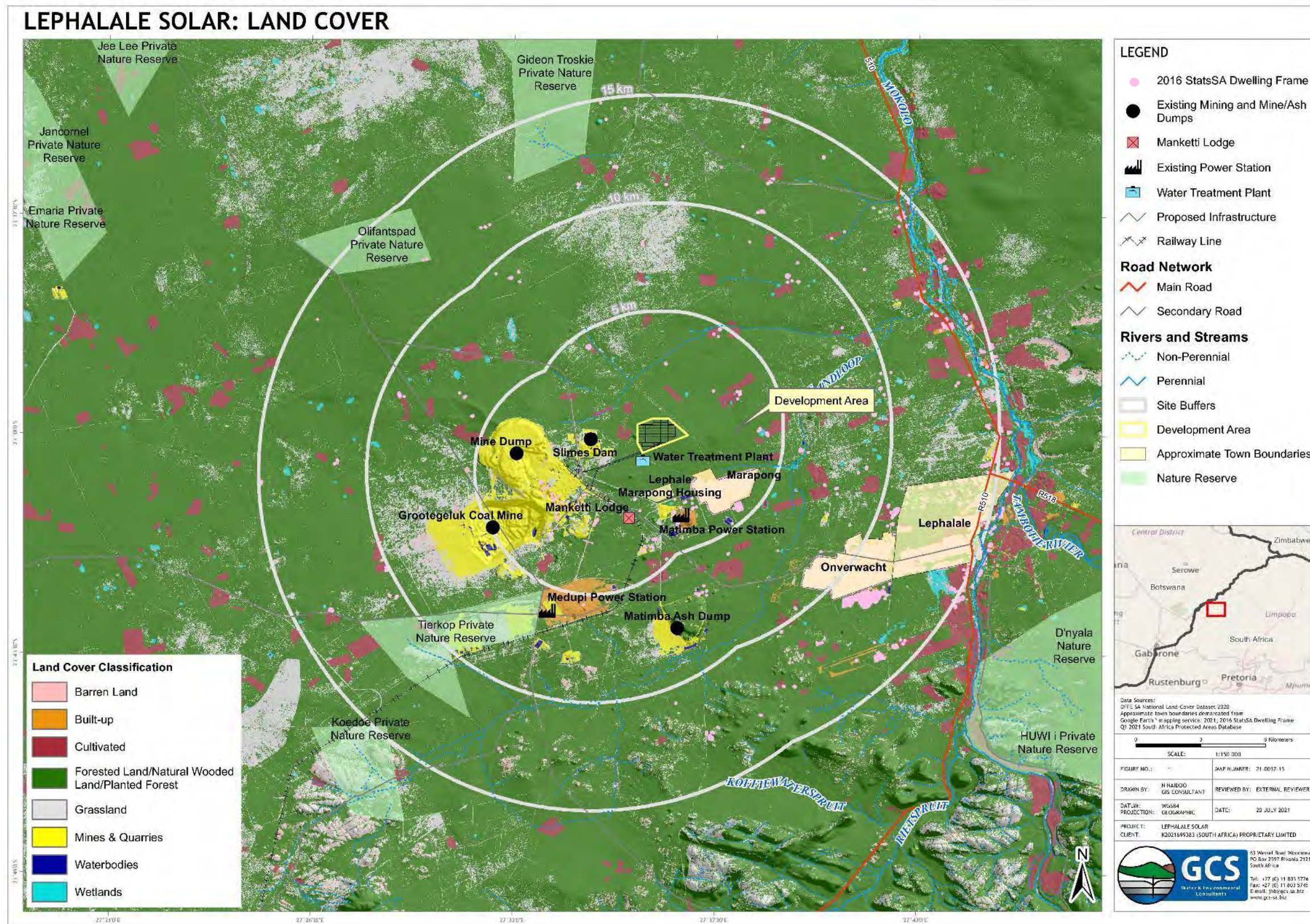


Figure 12-3: Lephalale Solar Land Cover



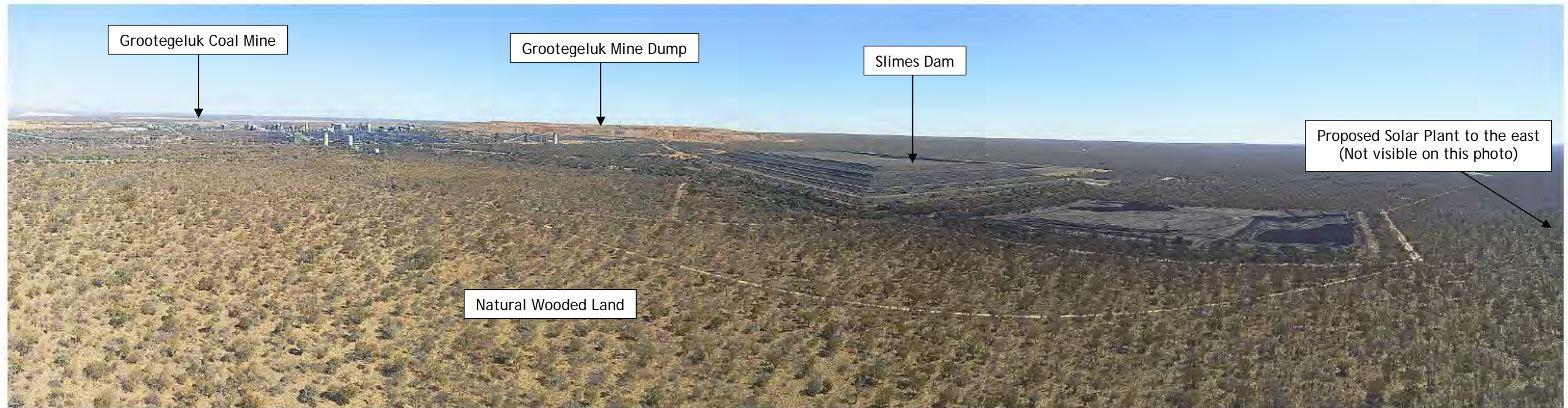


Photo 12-6: Aerial view of specific current landcover surrounding the proposed solar plant (July 2021)



Photo 12-7: Entrance of the Lephalale Marapong Housing Residential Area (11<sup>th</sup> June 2021)





Figure 12-4: Google Earth Imagery showing the industrial activities underling parts the Tierkop Private Nature Reserve as at 05/11/2020 (Google Earth™ mapping service: 2021)



#### 12.2.4 Climate

The climatic data presented in this section was sourced from Meteoblue which represents data for the previous 30 years of an area (Meteoblue, 2021). The closest main town to the mine is Marapong which is located approximately 2 Km south of the proposed solar plant and will be used as a climatic reference. The area receives approximately 237 millimetres (mm) of rainfall per annum with most rainfall occurring during the spring and summer period. From a visual perspective, the visual impact of the proposed activity should be lower during the rainy seasons as the screening effects of the natural vegetation will increase. Higher visual impacts are expected during the drier seasons. However, it is important to note that the site visit was conducted in June, during the drier season, and the vegetation was still dense and prominent. Furthermore, dust levels are generally higher during the dry winter months due to lower rainfall levels and drier soils which may result in haziness and partially limit the visibility of the proposed solar plant.

Figure 12-5 below indicates the average rainfall of Marapong over the past 30 years.

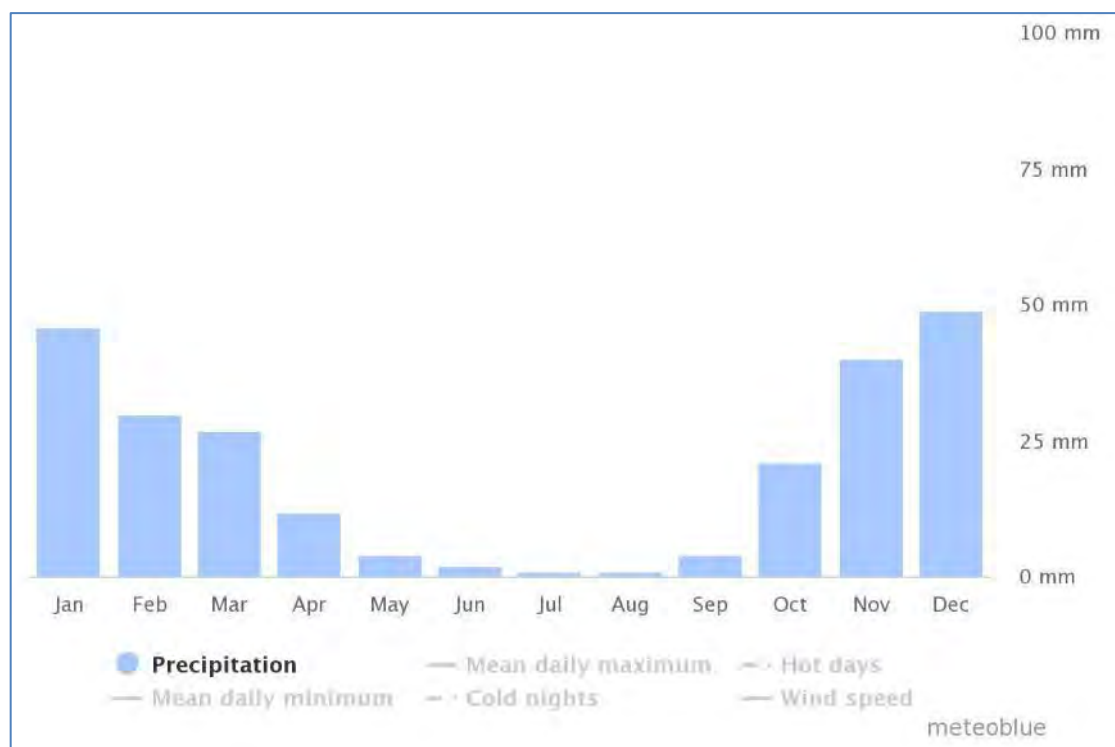


Figure 12-5: Monthly Average Rainfall Graph for Marapong: Previous 30 years (Meteoblue, 2021)

### *12.2.5 Sense of Place/Landscape Character*

Sense of place refers to the unique and distinct quality or character of a place, whether natural, rural or urban (Oberholzer, 2005). The visual character of an area plays a significant role in determining an area's sense of place, specifically the area's land use, topography, cultural features, landscape quality, etc. The area surrounding the study area comprises of existing industrial and mining features, built up areas, homesteads and game farming. Existing mining and industrial areas include the Grootegeluk Coal Mine and the Medupi and Matimba Coal Power Stations. The built up areas include the town of Marapong and the Lephale Marapong Housing Area. Marapong is made up of a formal standard township area with all amenities which forms the town of Marapong and the remainder of Marapong comprises of low-cost housing areas (Tekplan Environmental, 2017). Photo 12-8 shows the low-cost housing in Marapong. During the site visit, it was noticed that the town of Marapong and the internal roads were constantly busy with foot traffic (residents and workers) as well as vehicle movement, which contributes to the areas sense of place.

According to (Swanwick, 2002) landscape quality mostly relates to the human impact on a landscape and the physical state of the landscape in terms of intactness from visual, functional and ecological perspectives. From the site visit, it was noticed that the natural vegetation cover (for the greater portion of the proposed solar plant and surrounding areas) is relatively undisturbed. However, in some areas it was noticed that vegetation was cleared specifically for transmission line servitudes which allowed the visibility of the transmission lines (refer to Photo 12-9). Overall, the human impact on the surrounding area of the proposed solar plant is evident in terms of the existing coal mine, industrial areas and residential areas.

Within this region is also the presence of natural bushveld which can be consistently seen throughout the site and the surrounding areas. This natural and dense vegetation aids in partially screening the visibility of existing industrial activities within the area.

Overall, the presence of existing industrial and mining activities and the dense natural bushveld make up the area's current sense of place. Photo 12-10 and Photo 12-11 show the presence of bushveld on the study area and within surrounding areas. Considering aspects of existing industrial and mining areas and the vegetation of the area, the proposed solar plant's impact on the area's current sense of place is expected to be low throughout its lifespan.





Photo 12-8: Low-cost housing in Marapong



Photo 12-9: Existing Transmission Line visible from Lephalale Marapong Housing



Photo 12-10: Existing Matimba Power Station (approximately 3 Km south of the proposed site)



Photo 12-11: Bushveld Vegetation on and surrounding the study area

### 12.2.6 Sensitive Receptors

Within the receiving environment, specific sensitive receptors may experience different views of the proposed activity. They may be affected due to the alteration of their views and are therefore identified as part of the receiving and affected environment. According to Oberholzer (2005), the level of visual impact considered acceptable is dependent on the type of sensitive receptor. Therefore, the visual sensitivity of sensitive receptors have been categorized by Oberholzer (2005) into three categories as follows:

- High Sensitivity - e.g. residential areas, nature reserves and scenic routes or trails;
- Moderate Sensitivity - e.g. sporting or recreational areas, or places of work; and
- Low Sensitivity - e.g. industrial, mining or degraded areas.

The main types of sensitive receptors identified in this study are the nearby towns (Marapong, Lephale Marapong Housing Area, Onverwacht and Lephalale), homesteads, nature reserves, main roads, secondary roads, recreational areas and places of work within 15 Km of the proposed activity. These identified sensitive receptors fall within the high and moderate sensitivity categories. Each sensitive receptor in relation to potential visual impacts will be discussed in the sections below. As mentioned earlier, it is assumed that the magnitude of visual impact is highest within 5 Km of an activity and decreases the further away an observer is from the activity. Therefore, the distance of the identified sensitive receptors from the proposed development will also be considered.

Figure 12-6 shows the identified sensitive receptors which will be referred to throughout this section.



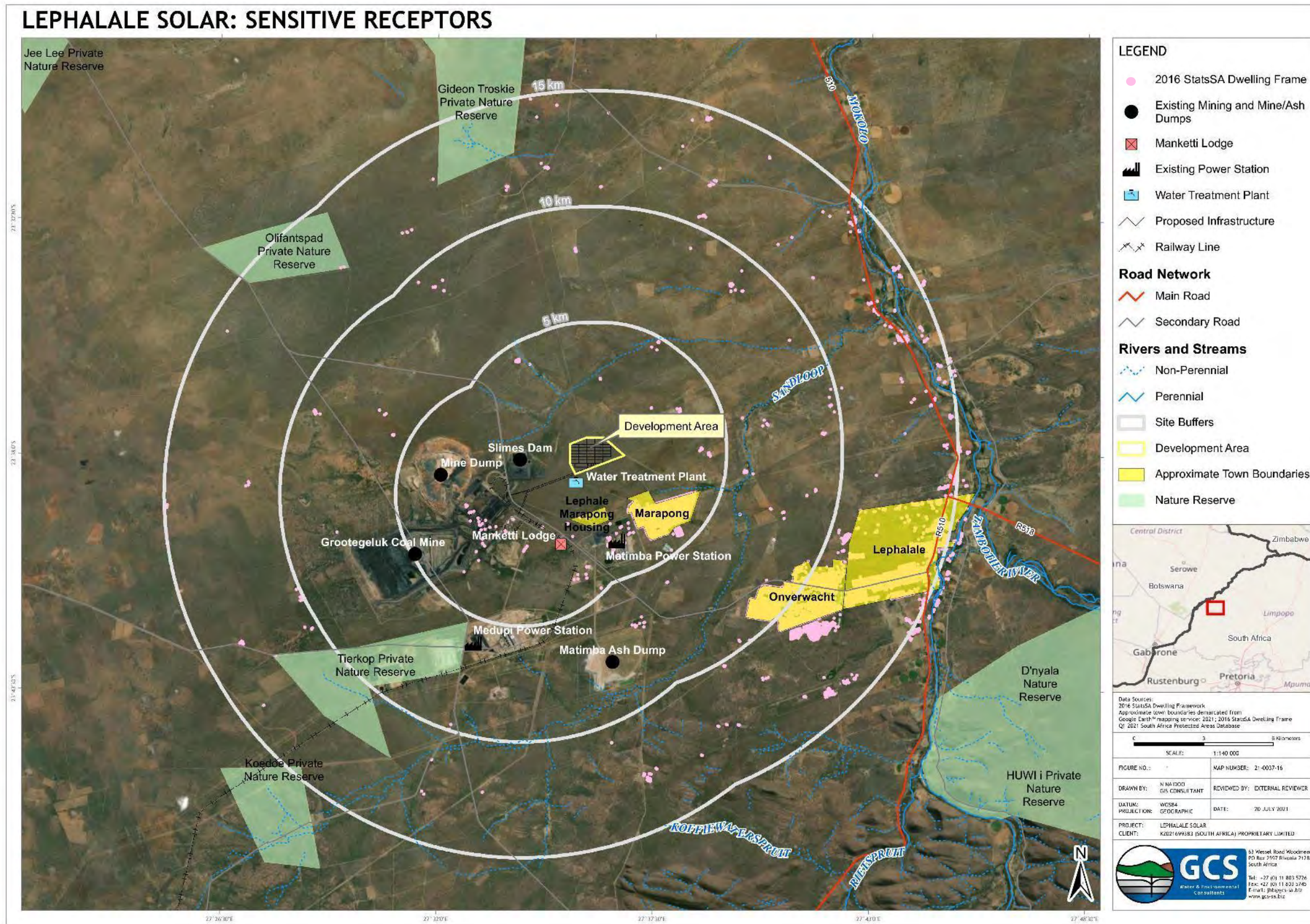


Figure 12-6: Lephalale Solar Identified Potential Receptors



### 12.2.6.1 High Sensitive Receptors

The identified nature reserves, main roads, secondary roads, nearby towns (residential areas) and homesteads (referred to in Table 12-1) fall within the high sensitivity category of sensitive receptors. The nature reserves, towns and homesteads are considered to experience static views as the visual relationship between an activity and the landscape will not change. The cone of vision is relatively wide and the viewer tends to scan back and forth across the landscape. Therefore, these receptors are classified as visual receptors of high sensitivity owing to their sustained visual exposure to the proposed development as well as their attentive interest towards their living environment.

Motorists are generally classified as visual receptors of low sensitivity due to their momentary views and experience of the receiving environment. Under normal conditions, views from a moving vehicle are dynamic as the visual relationship between the activity is constantly changing as well as the visual relationship between the activity and the landscape in which they are seen. The view cone for motorists, particularly drivers, is generally narrower than for static viewers. Motorists will therefore show low levels of sensitivity as their attention is focused on the road and their exposure to roadside objects is brief. However, for the current project, tourists may travel as motorists along the R510 or the secondary road located between the existing mine dump and slimes dam to get to the Groblersbrug Border Post and the Stockpoort Border Post into Botswana. Tourists are regarded as visual receptors of exceptionally high sensitivity as their attention is focused on the landscape which they essentially utilise for enjoyment purposes and appreciation of the quality of the landscape. Therefore, the main road and secondary road are categorized as high sensitivity sensitive receptors for this study.


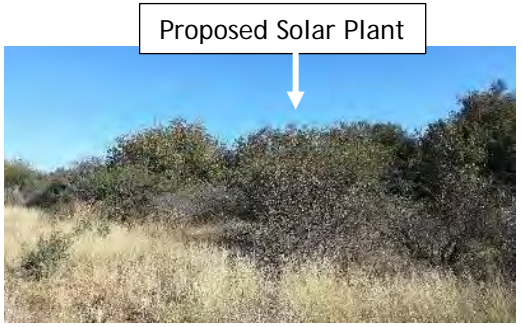
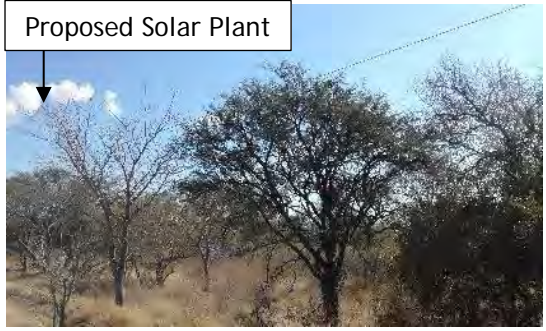
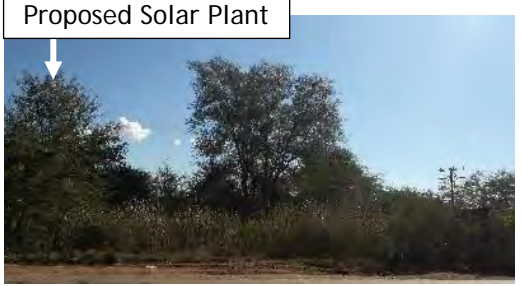
The main road (R510), secondary roads, nature reserves, nearby towns namely, Marapong, Lephalale Marapong Housing, Onverwacht and Lephalale are indicated in Figure 12-6 along with the 2016 StatsSA Dwelling Frame which includes the dwelling units/homesteads. The distance from the proposed development to these sensitive receptors are shown in Table 12-1 overleaf.

**Table 12-1: Distance of High Sensitivity Sensitive Receptors to the Proposed Project**

Identified Sensitive Receptor	Approximate Distance from the Proposed Development
Marapong	2 Km South
Lephalale Marapong Housing	2 Km South
Onverwacht	8 Km Southeast
Lephalale	11 Km Southeast
Homesteads	Distributed within 5 Km of the proposed development
Tierkop Private Nature Reserve	7 Km Southwest
Koedoe Private Nature Reserve	15 Km Southwest
Olifantspad Private Nature Reserve	12 Km Northwest

Identified Sensitive Receptor	Approximate Distance from the Proposed Development
Gideon Troskie Private Nature Reserve	13 Km North
Main Road (R510)	14 Km East
Secondary Road running between the Mine Dump and Slimes Dam	West of the proposed infrastructure
Remaining Secondary Roads	Mainly west of the proposed development within 15 Km

The abovementioned towns were visited during the site visit and the current view from the towns are shown in Photo 12-12 to Photo 12-15 overleaf. The photos also indicate the approximate location of the proposed solar plant. It is important to note that the homesteads could not be visited during the site visit due to safety concerns. From the site photos, it is evident that the existing vegetation within these areas are dense and may partially obscure the view of the proposed development. It is also important to note that the town of Marapong and the Lephalale Marapong Housing are likely to currently experience visual impacts from some of the existing industrial areas surrounding the proposed site.

	
<p>Photo 12-12: Current view of the study area from Marapong</p>	<p>Photo 12-13: Current view of the study area from Lephalale Marapong Housing</p>
	
<p>Photo 12-14: Current view of the study area from Onverwacht</p>	<p>Photo 12-15: Current view of the study area from the outskirts of Lephalale</p>



Regarding the identified Private Nature Reserves, the Tierkop Private Nature Reserve is in closest proximity (approximately 7 Km Southwest) of the proposed development. As mentioned in Section 12.2.3, underlying the Tierkop Private Nature Reserve are components of mines and quarries (refer to Figure 12-6). This area forms part of the Medupi Power Station and suggests that this portion of the Nature Reserve has either been sold or approved for industrial development. Regarding the collective Private Nature Reserves within the 15 Km site buffer, it is possible that tourists visiting these nature reserves may use binoculars which will allow them to see further than the naked eye. Should the tourist view the proposed solar plant via binoculars, it is most likely that they will also be able to view the existing coal mine, power stations, powerlines, water treatment plants and mine/ash dumps. Therefore, the tourist will most likely be visually impacted by the existing features even if the proposed solar plant development does not proceed. It is for the abovementioned reasons that the Private Nature Reserves will be assessed in this VIA however, they will not be considered as high sensitivity sensitive receptors due to their locations and their current exposure to existing industrial and mining activities within the area.

The R510 and the secondary road between the mine dump and slimes dam were also viewed during the site visit. Photo 12-16 shows the current view of the proposed solar plant from the R510. It was also noted during the site visit that the existing mine dump or slimes dam were not visible from this point due to the screening nature of the vegetation and the relative distance from the abovementioned activities. This implies that the proposed solar plant most likely will not be visible from the R510. However, the mining activities were visible along parts of the secondary road between the mine dump and the slimes dam, implying that the tourists travelling along this road currently experience negative visual impacts. The dense vegetation along other parts of the secondary road provides a visual screen to these existing activities.



**Photo 12-16: Current view of the study area from the R510 main road**

#### 12.2.6.2 Moderate Sensitive Receptors

The identified places of work (specifically the employees of the existing mine, power stations and water treatment plant) are considered moderate sensitive receptors as they are exposed to the potential visual impact for shorter time periods than residents. The Manketti Lodge forms part of Exxaro Resources and provides accommodation mainly for business travellers and is therefore also considered a moderate sensitive receptor. These sensitive receptors are indicated in Figure 12-6. The distance from the proposed development to these sensitive receptors are shown in Table 12-1 below.

**Table 12-2: Distance of Moderate Sensitivity Sensitive Receptors to the Proposed Project**

Identified Sensitive Receptor	Approximate Distance from the Proposed Development
Grootegeluk Coal Mine Employees	0.5 Km West
Matimba Power Station Employees	3 Km South
Medupi Power Station Employees	5 Km Southwest
Water Treatment Plant Employees	0.3 Km South
Manketti Lodge	2.5 Km South
Places of work within the nearby towns	Within 12 Km Southeast of the proposed development

Photo 12-17 and Photo 12-18 below show the current views from the Water Treatment Plant and the Manketti Lodge taken during the site visit. From the pictures, it is clear that the vegetation in the area is prominent and will most likely provide a visual screen which will partially obscure the proposed development from the sensitive receptors.



**Photo 12-17: Current view of the study area from the Water Treatment Plant**



**Photo 12-18: Current view of the study area from the Manketti Lodge**

Photos were unable to be taken from the power stations due to safety concerns. However, from the site visit it was noted that these sensitive receptors (i.e. places of work) are currently exposed to existing industrial and mining activities to some extent.

Regarding the places of work within the surrounding towns (specifically Marapong, Onverwacht and Lephalale), it can be said, from the results in Section 12.2.6.1, that the existing vegetation within these areas are dense and may partially obscure the view of the proposed development. It is also important to note that the town of Marapong and the Lephalale Marapong Housing currently experience visual impacts to some extent from some of the existing industrial areas surrounding the proposed site.

#### *12.2.7 Visual Absorption Capacity and Visual Intrusion*

The Visual Absorption Capacity (VAC) of the landscape signifies the ability of the landscape to accept additional human intervention without serious loss of landscape character and visual quality/value of the area. The VAC of an area is founded on the characteristics of the physical environment such as topography, vegetation and soil characteristics. Areas with a high VAC can easily accept new activities however, areas with a low VAC will suffer a higher visual impact from new activities.

Oberholzer (2005) categorizes an areas VAC into three categories as follows:

- High VAC - e.g. effective screening by topography and vegetation;
- Moderate VAC - e.g. partial screening by topography and vegetation; and
- Low VAC - e.g. little screening by topography or vegetation.

Based on the abovementioned categories, the current study area can be categorized as an area with Moderate VAC due to the partial screening by the vegetation. Photo 12-19 and Photo 12-20 below indicate the ability of the landscape to partially screen human activities. It was also noted during the site visit that the vegetation effectively screens existing infrastructure from certain viewpoints.





Photo 12-19: Matimba Power Station somewhat screened by the existing vegetation



Photo 12-20: Powerlines partially screened by existing vegetation

The VAC of an area is also closely related to the Visual Intrusion of the proposed activity on the surrounding area. Visual Intrusion refers to the level of compatibility or congruence of the project with the qualities of the area, or its 'sense of place' (Oberholzer, 2005). This is related to the idea of context and maintaining the integrity of the landscape.

Oberholzer (2005) categorizes visual intrusion into three categories as follows:

- High Visual Intrusion - results in a noticeable change or is discordant with the surroundings;
- Moderate Visual Intrusion - partially fits into the surroundings, but clearly noticeable; and
- Low Visual Intrusion - minimal change or blends in well with the surroundings.

According to the abovementioned categories, the proposed activity is expected to have a low visual intrusion on the surrounding areas. This can be said as the proposed solar plant is located directly adjacent to the existing Grootegeluk Coal Mine and is also surrounded by two existing coal power stations and powerlines. Therefore, these areas are currently visually disturbed by similar infrastructure and the proposed solar plant is expected to blend in with the surroundings. The presence of these industrial and mining activities also, to some extent, add to the moderate VAC of the area.

Based on the above assessment of VAC and Visual Intrusion, 3D models and simulations (with and without mitigation measures) recommended by Oberholzer (2005) for a Level 4 Assessment (as mentioned in Section 11) is considered unnecessary since the current industrial and mining activities as well as the existing bushveld vegetation will act as partial visual screens to mitigate against some potential visual impacts from the proposed solar plant.

#### *12.2.8 Night-time Lighting*

Light pollution refers to the excessive use of artificial light and may have serious environmental consequences for humans, wildlife and the climate. According to the International Dark-Sky Association (IDSA) there are four components of light pollution, explained below:

- Glint/Glare - excessive brightness that causes visual discomfort;
- Skyglow - brightening of the night sky over inhabited areas;
- Light trespass - light falling where it is not intended or needed; and
- Clutter - bright, confusing and excessive groupings of light sources.

Light pollution is considered a side effect of industrial activities, and its sources often include building exterior lighting, interior lighting, commercial properties, factories, and streetlights to name a few. The proposed Lephalale Solar project intends to be operational at night and therefore will require night-time lighting at the site camps, operations and management buildings, guardhouse, substations and BESS areas. The night-time lighting sources will be

from security lights, lighting masts, interior lighting, mobile lighting plants, construction vehicles and Light Delivery Vehicles (LDV's).

The area immediately surrounding the study area has existing night-time lighting sources such as the Grootegeluk Coal Mine, the Medupi and Matimba Power Stations, the water treatment plant and the built-up areas of Marapong and the Lephalale Marapong Housing Area. Therefore, the effects of glare, skyglow and clutter are currently experienced within 5 Km of the study area. This implies that the new lighting sources from the proposed solar plant are expected to have a limited impact on the residents of the area who most likely currently experience light pollution from the existing activities within the area.

Glint and Glare is also expected from the proposed PV Panels however, these aspects are addressed in a separate Glint and Glare Assessment.

#### 12.2.9 Visibility, Visual Exposure and Line of Sight

The visibility of the project refers to the geographic area from which the proposed project will be visible (the viewshed) and also relates to the number of sensitive receptors affected (Oberholzer, 2005). The viewshed can be quantified using GIS software by analysing the elevations of the proposed infrastructure (the transmitters) in relation to the topography/terrain of the study area to determine from which points the transmitters will be visible from.

The visual exposure of a project is based on the distance from the project to the selected sensitive receptors and viewsheds. Exposure or visual impact tends to diminish exponentially with distance (Oberholzer, 2005). This principle is illustrated in Figure 12-7.

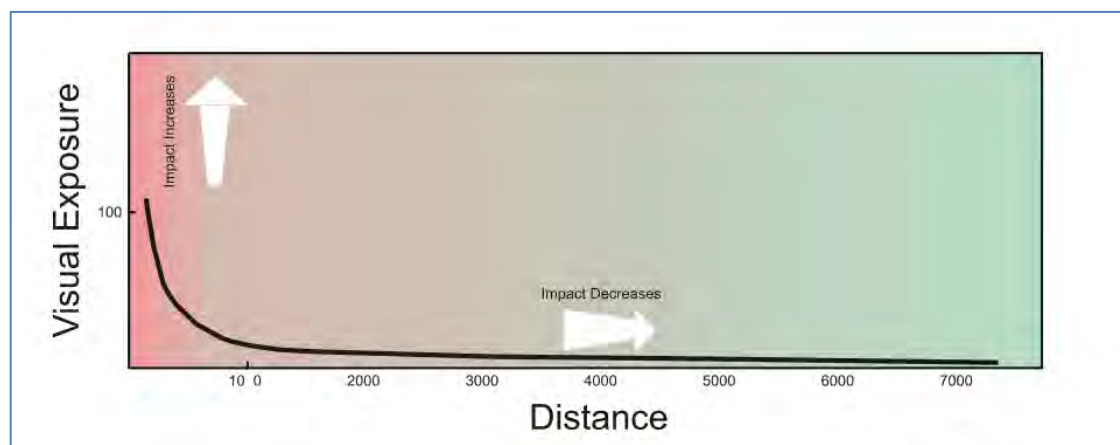


Figure 12-7: Effect of Distance on Visual Exposure (NEWLA, 2014)

Line of sight refers to a straight line along which an observer has unobstructed vision. Line of site combined with an elevation profile between an observer and the proposed development can provide an indication of where along the line the view of the observer is obstructed by the terrain. As mentioned in Section 12.2.1 the topography of the study area can be described as flat, with an even gradient sloping gently eastwards. Since a line of sight analysis depends on the elevation of the area, and the elevation data available for this study does not include the heights of existing infrastructure, vegetation and other man-made features, it was considered unnecessary to conduct the line of sight analysis as it would most likely show minimal obstructions between the observer and the proposed development due to the flat topography. However, based on the site visit, it was verified that the existing bushveld vegetation acted as a partial visual screen to the existing industrial and mining activities for most of the surrounding area, which would not be indicated in a line of sight analysis. Therefore, conducting the analysis is not considered to add significant value to the current VIA.

The visibility analysis for the proposed project was focused on the proposed infrastructure components, listed in Table 12-3 below, which are considered to be the most visually intrusive components based on their height, area and length.

**Table 12-3: Proposed Infrastructure associated with the Lephalale Solar Plant**

Infrastructure Component	Maximum Height above ground (meters [m])	Area (ha)/Length (m)
PV Panels	5	≤250 ha
Onsite Substation	30	≤1 ha
Tie-in Substation	20	≤1 ha
132 kV Transmission Line	27.5	4 371 m

Ancillary activities, including internal roads, perimeter fencing, and other project associated infrastructure have been excluded from the detailed visual modelling due to their relatively small impact in relation to main infrastructure detailed above. The proposed lighting and lightning masts are expected to contribute to the potential visual impact however were also not modelled as the respective locations of the lighting masts and the height of the lightning mast/s were unknown at the time of this study.

The viewsheds were modelled in GIS software, over a 15 Km radius, using the available 30 m ALOS terrain data and the respective designs and heights of the proposed transmitting features. The viewsheds were then incorporated with a distance factor, to incorporate visual exposure, which resulted in the viewsheds being classified into 5 visibility/visual classes as follows:



- 
- Low
  - Low to Medium
  - Medium
  - Medium to High
  - High

The cumulative potential visual impact of the proposed infrastructure was thereafter analysed. It is important to note, when interpreting the results, that the actual viewshed of the project may be smaller due to screening by existing vegetation, buildings and industrial areas that are not accounted for in the terrain and therefore are excluded from the viewshed model. Furthermore, the viewshed results on the Tierkop Private Nature Reserve will not be considered within the 10 Km buffer as the Medupi Power Station underlies this area as mentioned earlier.

Figure 12-8 shows the layout of the modelled infrastructure. Figure 12-9 indicates a three-dimensional (3D) representation of the modelled infrastructure in relation to the existing Grootegeluk Coal Mine and the Lephalale Marapong Housing area. The results of the analysis are presented thereafter.



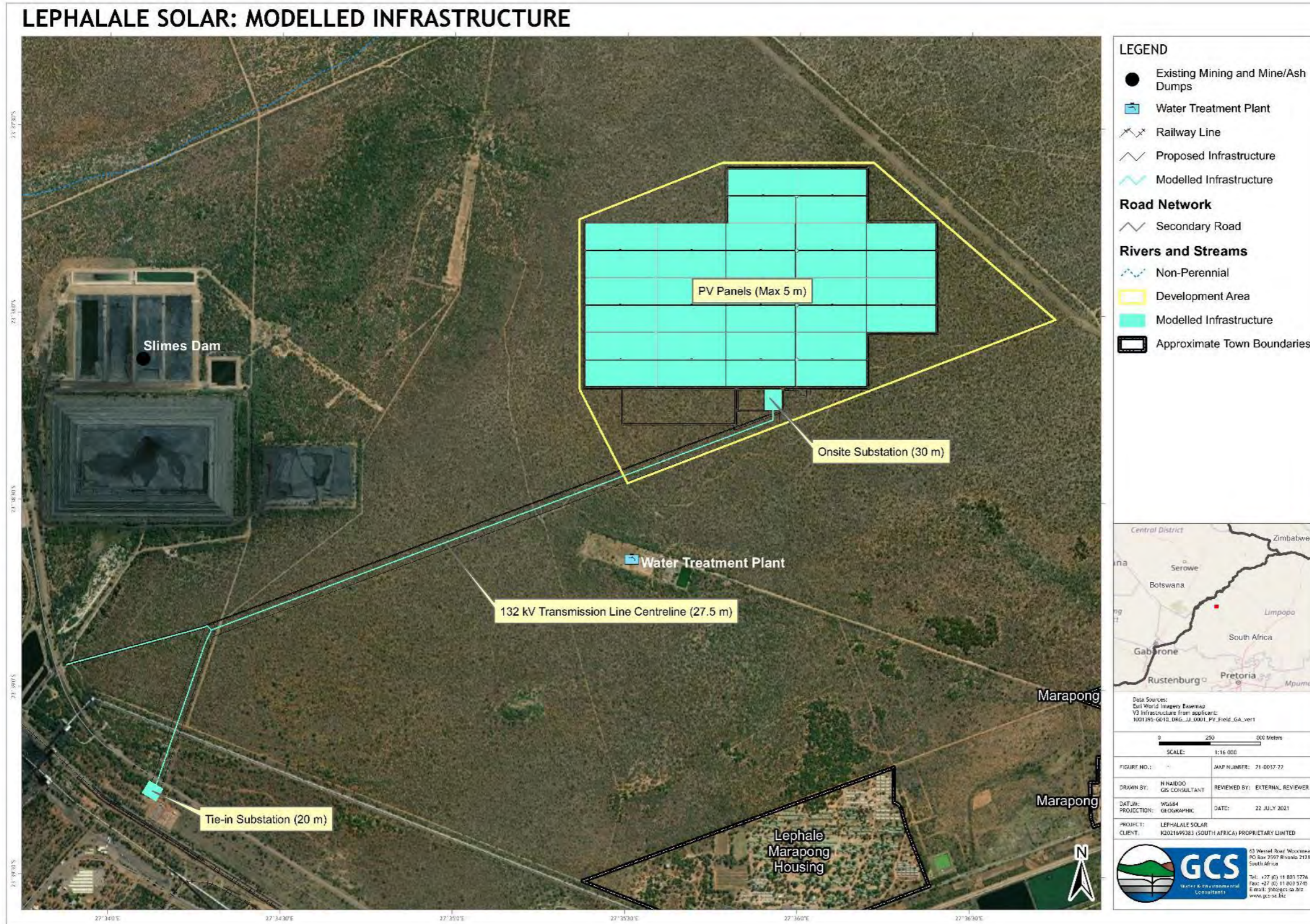


Figure 12-8: Lephalale Solar Modelled Infrastructure



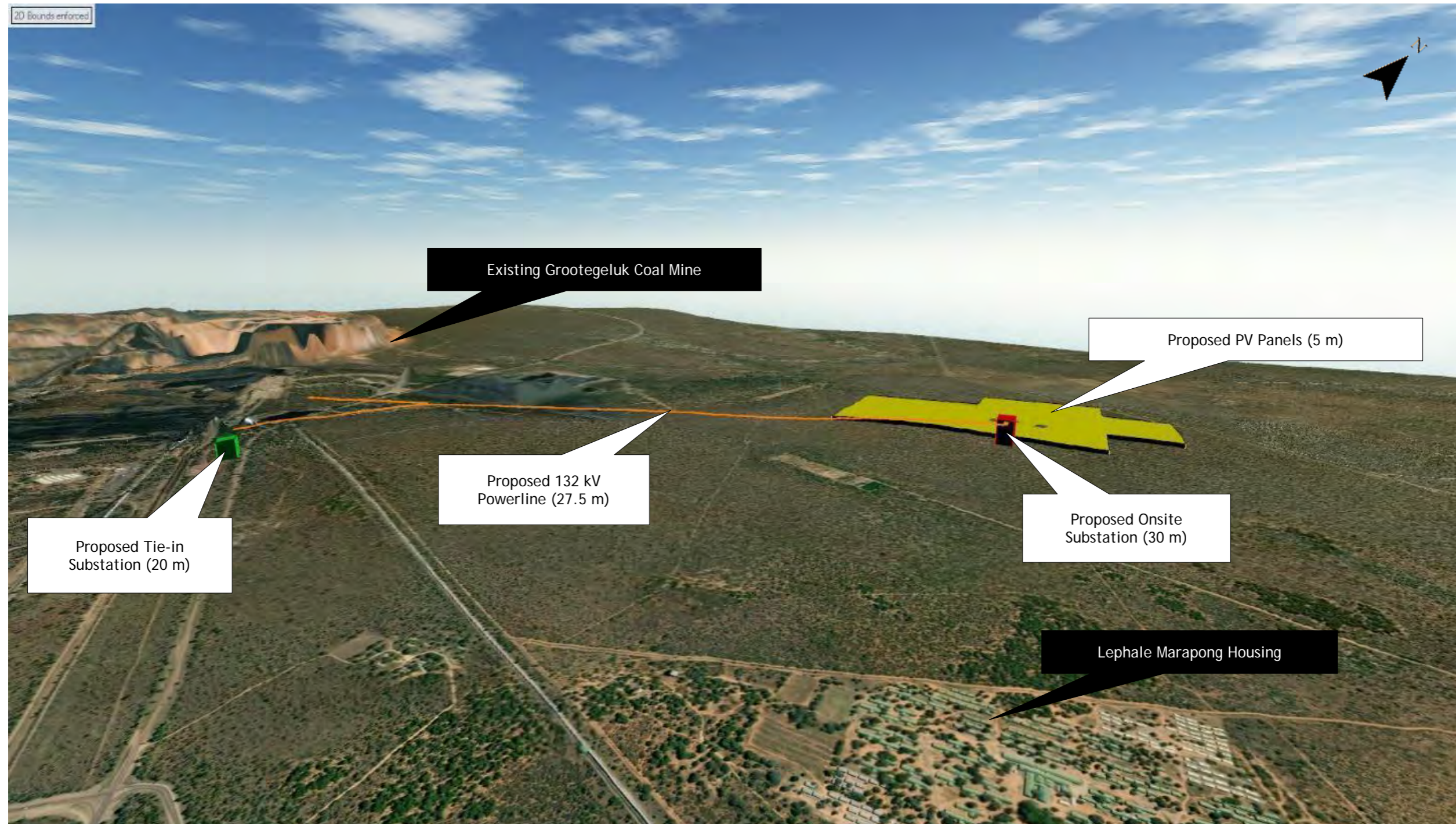


Figure 12-9: 3D Simulation of the proposed infrastructure in relation to the existing Grootegeluk Coal Mine and the Lephale Marapong Housing

### 12.2.9.1 PV Panels Visibility Analysis

Figure 12-10 overleaf indicates the viewshed results of the proposed PV Panel structures. The results indicate that the proposed panels will be predominantly visible from the receptors situated to the east of the project. High levels of visibility are expected from receptors in the northern, eastern and southern areas within 5 Km of the project area and the visibility decreases as the observer moves further away. High visibility is also expected from the Lephale Marapong Housing area, Marapong and homesteads within the 5 Km buffer. It should be noted that these areas are to an extent currently exposed to the existing industrial activities, thus the proposed solar plant will add to the cumulative visual impact. The results also indicate that the outskirts of Onverwacht and Lephalale may experience medium to high and medium levels of visual exposure respectively. However, due to the relative distance of these towns from the proposed development and the moderate VAC of the surrounding area, it is unlikely that the development would be entirely visible.

Parts of the secondary road located between the mine dump and slimes dam may experience high levels of visibility within the 5 Km buffer. This implies that tourists travelling along this road may momentarily view the proposed project. However, as mentioned earlier, parts of this route are currently exposed to the existing industrial activities within the immediate vicinity. Minimal sections of the R510 main road are expected to experience medium levels of visual exposure to the proposed project however, as noted from the site visit, it is likely that the proposed development will not be visible from the road.

Neither of the identified private nature reserves are expected to experience any visual impacts from the proposed PV Panels, as much of the area to the west of the development is shielded by the topography and most likely by the existing mine dumps and coal mine situated to the west of the study area.

The employees of the existing coal mine, Medupi Power Station, Matimba Power Station and Water Treatment Plant are all expected to experience some level of visual impact from the PV panels. The same can be said for the employees within the town of Marapong and the business goers residing at the Manketti Lodge.



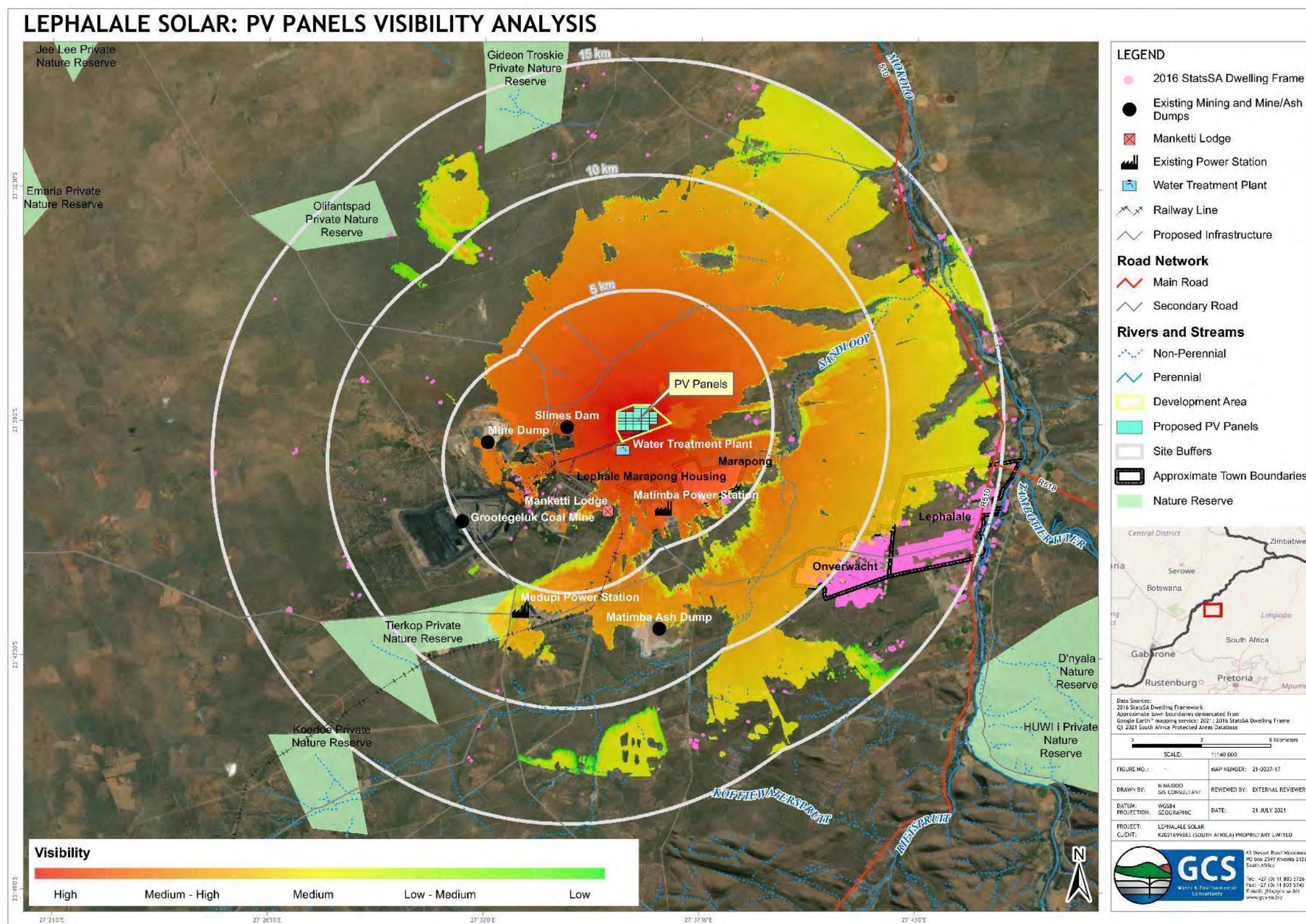


Figure 12-10: Proposed PV Panels Viewshed Results



### *12.2.9.2 Onsite Substation*

The viewshed results of the proposed onsite substation are represented in Figure 12-11. The figure indicates that the potential visibility of the substation decreases as an observer's distance from the activity increases. High levels of visibility are expected within 5 Km of the proposed development, particularly within the Lephale Marapong Housing area, the town of Marapong and a few of the homesteads. The outskirts of Lephalale and Onverwacht are expected to experience low to medium and medium levels of visual exposure.

A minimal section of the R510 main road is expected to experience low to medium levels of exposure and parts of the secondary road is expected to experience high visibility levels.

The Tierkop Private Nature Reserve is expected to experience low to medium levels of visual exposure along a minimal area on the northern section of the reserve outside of the 10 Km buffer. A small portion of the southeast corner of the Olifantspad Private Nature Reserve is also expected to experience low to medium levels of exposure. It should be noted that these areas of the reserves are located further than 10 Km away from the proposed substation, rendering visibility of the proposed development low to negligible.

The employees of the existing coal mine, Medupi Power Station, Matimba Power Station and Water Treatment Plant are all expected to experience some level of visual impact from the substation. The same can be said for the employees within the town of Marapong. Business goers within the Manketti Lodge are susceptible to experience high levels of visual exposure.



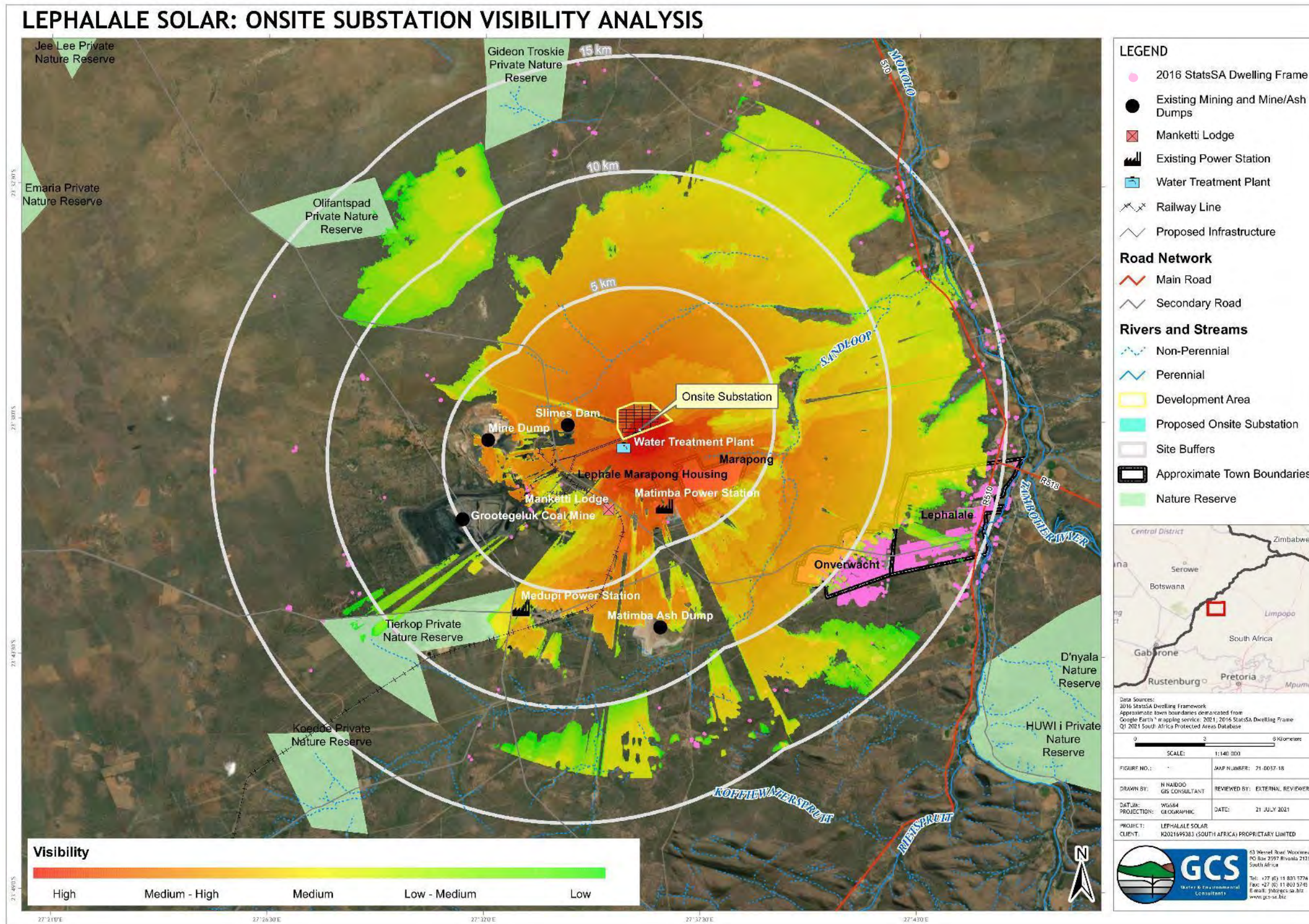


Figure 12-11: Proposed Onsite Substation Viewshed Results



### 12.2.9.3 Tie-in Substation

Figure 12-12 overleaf indicates the viewshed results of the proposed tie-in substation. The figure indicates that the potential visibility of the tie-in substation within the 15 Km buffer is much less in comparison to the proposed onsite substation. Most of the potential visibility is restricted to approximately 12 Km east of the proposed activity. Marapong and Lephale Marapong Housing is expected to experience low to medium levels of visual exposure. The existing Eskom and Grootegeluk Substations are also located adjacent to the proposed tie-in substation, this implies that the residents of Marapong and the Lephale Marapong Housing area are already exposed to electrical structures. A few of the identified homesteads are expected to experience medium to high levels of visibility. The outskirts of Onverwacht and Lephalale may experience low to medium levels of visual exposure.

The R510 will not experience any visual impacts from the proposed substation as seen from the figure. However, the secondary road is expected to experience medium to high levels of exposure.

The Tierkop Private Nature Reserve is expected to experience low and medium levels of visual exposure along a minimal area on the northern section of the reserve outside of the 10 Km buffer. A small portion of the southeast corner of the Olifantspad Private Nature Reserve is also expected to experience low to medium levels of exposure.

The employees of the existing coal mine, Medupi Power Station, Matimba Power Station and Water Treatment Plant are all expected to experience some level of visual impact from the substation. The same can be said for the employees within the town of Marapong. Business goers within the Manketti Lodge are susceptible to experience medium to high levels of visual exposure.



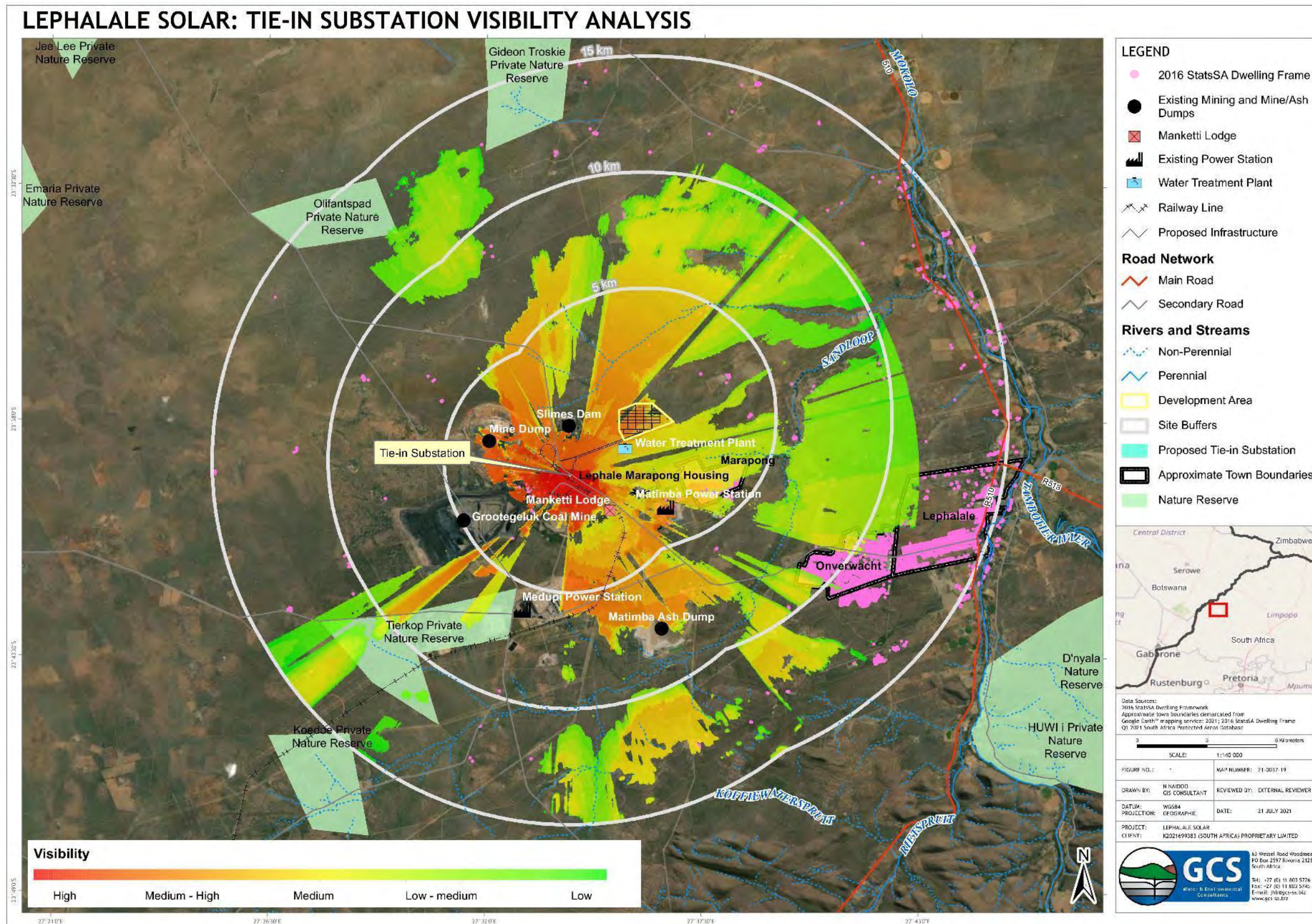


Figure 12-12: Proposed Tie-in Substation Viewshed Results



#### *12.2.9.4 132 kV Transmission Line*

The viewshed results of the proposed 132 kV Transmission Line is shown in Figure 12-13 overleaf. It is evident that compared to the other proposed infrastructure, the proposed transmission line has the highest visual impact in terms of surface area. The figure indicates that the transmission line will be most visible from within 5 Km of the study area. The Lephalale Marapong Housing area and the town of Marapong are expected to experience high levels of visual exposure across these areas. The northwest sections of Onverwacht are expected to experience medium to high levels of exposure and Lephalale is expected to experience medium levels of exposure. The identified homesteads are also expected to experience high visibility levels.

A small portion of the R510 main road to the north may experience medium levels of visibility. However, the secondary road will experience high visibility levels.

The Tierkop Private Nature Reserve is expected to experience low and medium levels of visual exposure along a minimal area on the northern and southern section of the reserve outside of the 10 Km buffer. A small portion of the southeast corner of the Olifantspad Private Nature Reserve is also expected to experience low to medium levels of exposure. A small portion on the northeast side of the Koedoe Private Nature Reserve and on the southwest side of the Gideon Troskie Private Nature Reserve may experience low visibility levels.

The employees of the existing coal mine, Medupi Power Station, Matimba Power Station and Water Treatment Plant are all expected to experience some level of visual impact from the substation. The same can be said for the employees within the town of Marapong. Business goers within the Manketti Lodge are susceptible to experience medium to high levels of visual exposure.



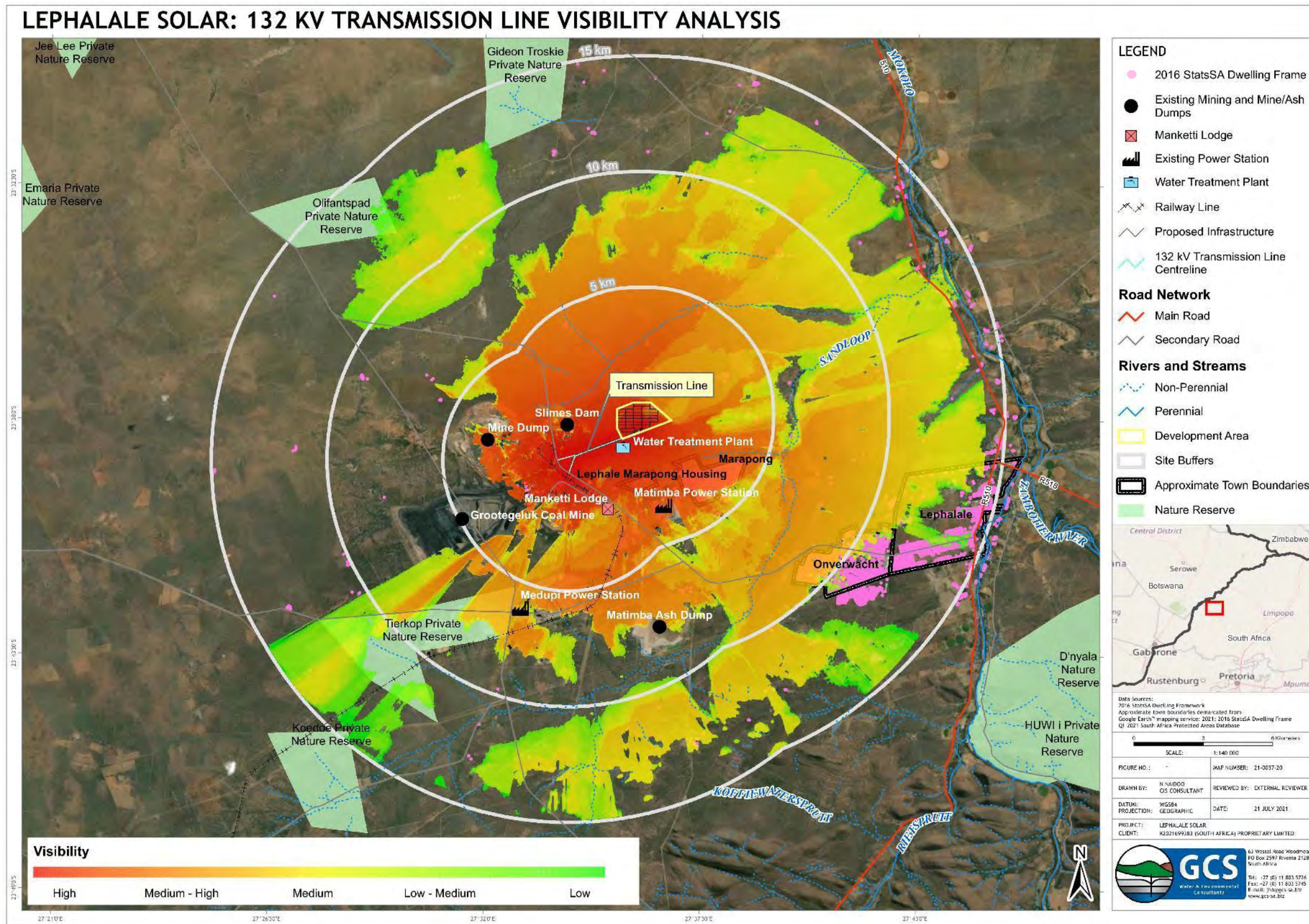


Figure 12-13: Proposed 132 kV Transmission Line Viewshed Results



#### 12.2.9.5 Cumulative Visual Impact

The cumulative potential visual impact of the components of the proposed solar plant is indicated in Figure 12-14 overleaf. The results indicate that the proposed project components may be highly visible from within 5 Km of the study area and that the visibility decreases as an observers' distance from the activity increases. The results also indicate that most of the visual impact is concentrated on the eastern side of the study area. Marapong and the Lephale Marapong Housing Development along with a few of the homesteads are expected to experience high levels of visual exposure from the proposed development. However, as previously noted, these towns, housing areas and homesteads are already exposed to the existing activities within the immediate vicinity. The western portions of Lephalale and Onverwacht may be susceptible to low to medium and medium to high levels of visibility.

Parts of the R510 main road may experience medium levels of visibility from the cumulative activities. However, the secondary road running may experience high levels of visual exposure. It is important to note that tourists travelling along this secondary road to the Stockpoort Border Post are currently exposed to parts of the mining and industrial activities present along this road and the proposed solar plant may not significantly impact their current views.

The Tierkop Private Nature Reserve is expected to experience low and medium levels of visual exposure along a minimal area on the northern and southern section of the reserve outside of the 10 Km buffer. A small portion of the southeast corner of the Olifantspad Private Nature Reserve is also expected to experience low to medium levels of exposure. A small portion on the northeast side of the Koedoe Private Nature Reserve and on the southwest side of the Gideon Troskie Private Nature Reserve may experience low visibility levels.

The employees of the Coal Mine, Matimba Power Station, Water Treatment Plant and those within Marapong are expected to experience high levels of visual exposure. However, the employees of the Medupi Power Station may experience medium visibility levels. Business goers residing at the Manketti Lodge may experience medium to high visibility levels.

Based on all the viewsheds, it is evident that no receptors located to the west of the site will have a significant view of the proposed infrastructure. The viewshed results indicate that the visibility of the proposed solar plant will be restricted mostly to the eastern areas of the development. However, it remains important to note that the moderate VAC levels of the existing vegetation and the presence of the existing mining and industrial activities within the area will partially screen the proposed development from the sensitive receptors.



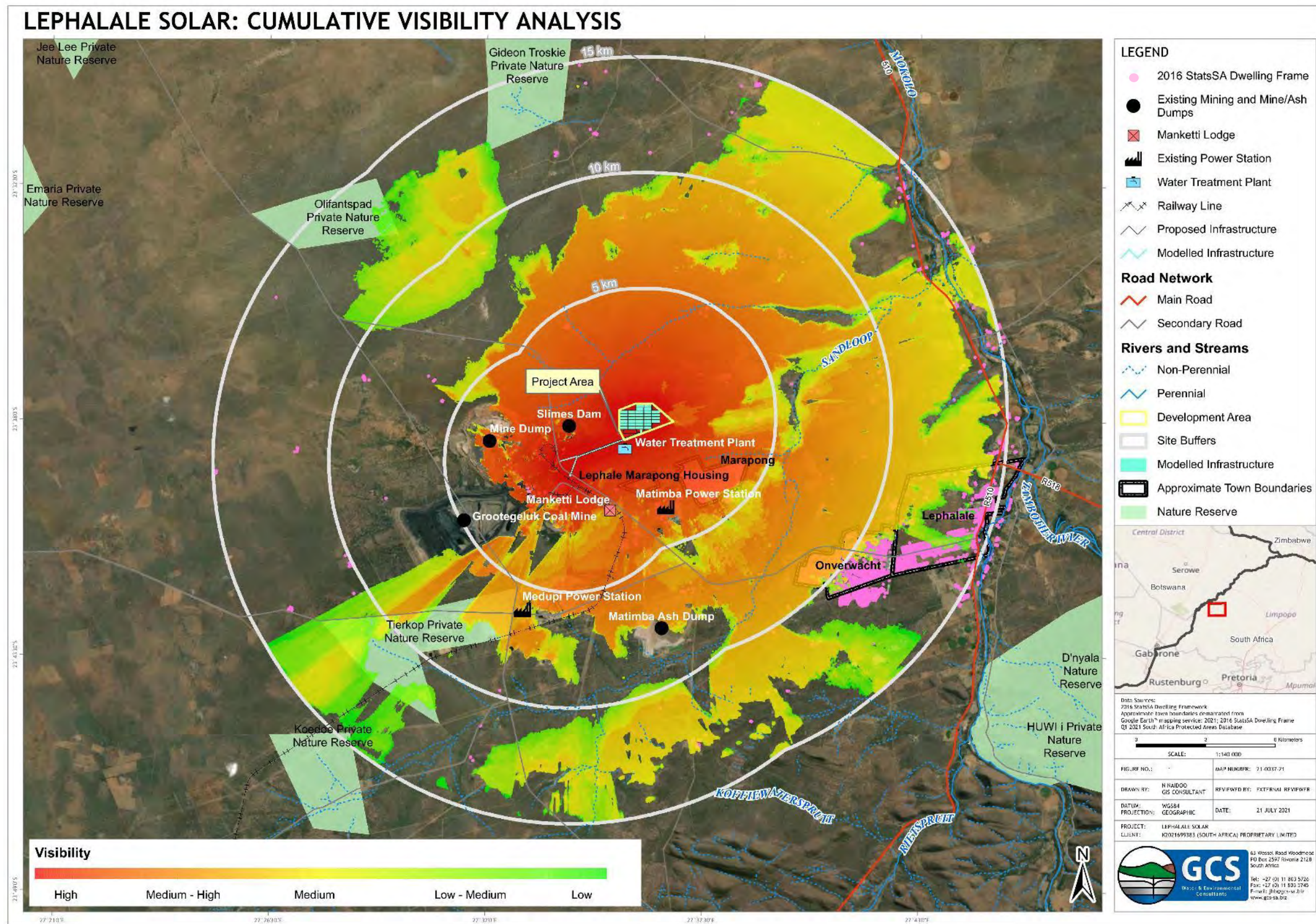


Figure 12-14 Viewshed Analysis for the cumulative effects of the proposed infrastructure



### 13 OVERALL MAGNITUDE OF VISUAL IMPACT

To determine the sensitivity of the identified sensitive receptors towards the proposed activities, a commonly used rating system was utilised. The impact methodology used for this report conforms to specific GCS defined criteria that has been standardised across all relevant specialist studies associated with the Environmental Impact Assessment. The detailed impact rating system is indicated in Appendix F. Impacts were rated as either of high, moderate or low significance on the basis provided in Table 13-1. As requested by GCS, each impact was also assessed in terms of the level to which there is an irreplaceable loss of resources and its degree of reversibility. The ratings as described in Table 13-2 and Table 13-3.

**Table 13-1: Impact Significance Ratings**

SIGNIFICANCE RATING	CLASS (NEGATIVE IMPACT)	CLASS (POSITIVE IMPACT)
1 - 55	(L) Low Significance	(L) Low Significance
56 - 169	(M) Moderate Significance	(M) Moderate Significance
170 - 600	(H) High Significance	(H) High Significance

**Table 13-2: Irreplaceability of resource caused by impacts**

No irreplaceable resources will be impacted (the affected resource is easy to replace/rehabilitate)	Low
Resources that will be impacted can be replaced, with effort	Medium
Project will destroy unique resources that cannot be replaced	High

**Table 13-3: Reversibility of impacts**

Low reversibility to non-reversible	Low
Moderate reversibility of impacts	Medium
High reversibility of impacts	High

The potential visual impacts were rated based on the potential impact itself but also largely considered the impacts in relation to the current visual impact caused by the existing mining and industrial activities within the immediate vicinity of the study area.

The visual impact rating table per development phase is indicated in Table 13-4 overleaf.

Table 13-4: Impact Rating Table

Activity	Impact	Before Mitigation												After Mitigation												Confidence level	Mitigation measures	Irreplaceability	Reversibility
		Severity rating	Spatial scale	Duration	Consequence	Frequency of activity	Frequency of impact	Legal Issues	Detection	Likelihood	Significance	+/-	Risk Rating	Severity rating	Spatial scale	Duration	Consequence	Frequency of activity	Frequency of impact	Legal Issues	Detection	Likelihood	Significance	+/-	Risk Rating				
<b>Visual Impacts</b>																													
<b>Construction Phase (14 months)</b>																													
Site clearing/preparation - vegetation removal	Negative impact on aesthetics	4	2	2	8	4	4	1	4	9	72	-	M	3	1	2	6	4	3	1	3	7	42	-	L	75%	- Limit the construction footprint - Remove vegetation in a 'natural manner' when possible, avoiding any harsh lines - No vegetation clearing must take place beyond the development footprint - The existing vegetation bordering the proposed firebreaks – which will be established on either side of the perimeter fence, should be retained as far as possible - Consult a Botanist/Landscape Architect/Environmentalist to assist with proper vegetation removal procedures - Strategically plan the location of site camps and laydown areas so that minimal vegetation is cleared - All disturbed areas should be rehabilitated after the construction phase	L	H
Site clearing/preparation - construction activity - heavy machinery and vehicle movement	Landscape visual change	3	2	2	7	5	5	1	3	9	63	-	M	2	1	2	5	5	4	1	2	7	35	-	L	75%	- Minimize construction duration - Restrict the movement of personnel and construction vehicles to where they are needed - Regulate speed at which heavy machinery/vehicles move	L	H
Site clearing/preparation - vegetation removal	Dust creation	2	3	2	7	4	4	1	3	8	56	-	M	1	2	2	5	3	3	1	2	6	30	-	L	75%	- Dust suppression through increasing the moisture content in the ground - Minimize construction duration - Regulate speed at which heavy machinery/vehicles move	L	H
Security and night-time lighting	Glare, light trespass, skyglow	2	3	2	7	5	5	1	3	9	63	-	M	1	2	2	5	4	4	1	2	7	35	-	L	75%	- choose suitable types of lighting that minimize glare and sky glow - Only focus light sources on where it is needed - Consult a qualified lighting engineer or lighting specialist - No spotlights should be used - Mounting light fixtures should be avoided - Utilize motion sensor lights at security buildings	L	H
Presence of the site camps and laydown areas	Change of visual character	3	2	2	7	5	5	1	2	8	56	-	M	2	1	2	5	5	3	1	1	5	25	-	L	75%	- Minimize the construction duration - Strategically plan the location of site camps and laydown areas so that it is not visible to surrounding areas - All disturbed areas should be rehabilitated after the construction phase	L	H
Litter and construction waste	Change of visual character	3	2	2	7	5	5	1	2	8	56	-	M	2	1	2	5	4	3	1	1	5	25	-	L	75%	- Ensure that unwanted construction material is stored in the correct manner and out of sight of surrounding receptors - Discard all unwanted construction material and waste at a legal waste facility	L	H
<b>Operational Phase (25 years)</b>																													
Presence of the PV Panels	Landscape visual change	3	3	4	10	5	2	1	2	10	100	-	M	2	2	3	7	5	1	1	1	8	56	-	M	75%	- The existing vegetation bordering the proposed firebreaks adjacent to the perimeter fence should be retained as far as possible - If the existing vegetation is not retained, set up visual screens (such as trees, shrubs or hedges) along the perimeter of the study area - Consult a Botanist/Landscape Architect/Environmentalist to assist the selection and placement of suitable vegetation for visual screens - Ensure that the PV Panels, transmission lines, transmission line corridors and substations are maintained and in a visually acceptable state at all times - Use suitable building finishes/colours that blend in with the surrounding landscape	M	M
Presence of the transmission line	Landscape visual change	2	3	4	9	5	2	1	2	10	90	-	M	1	2	3	6	5	1	1	1	8	48	-	L	75%	- The existing vegetation bordering the proposed firebreaks adjacent to the perimeter fence should be retained as far as possible - If the existing vegetation is not retained, set up visual screens (such as trees, shrubs or hedges) along the perimeter of the study area - Consult a Botanist/Landscape Architect/Environmentalist to assist the selection and placement of suitable vegetation for visual screens - Ensure that the PV Panels, transmission lines, transmission line corridors and substations are maintained and in a visually acceptable state at all times - Use suitable building finishes/colours that blend in with the surrounding landscape	L	H
Presence of the substations	Landscape visual change	2	3	4	9	5	2	1	2	10	90	-	M	1	2	3	6	5	1	1	1	8	48	-	L	75%	- The existing vegetation bordering the proposed firebreaks adjacent to the perimeter fence should be retained as far as possible - If the existing vegetation is not retained, set up visual screens (such as trees, shrubs or hedges) along the perimeter of the study area - Consult a Botanist/Landscape Architect/Environmentalist to assist the selection and placement of suitable vegetation for visual screens - Ensure that the PV Panels, transmission lines, transmission line corridors and substations are maintained and in a visually acceptable state at all times - Use suitable building finishes/colours that blend in with the surrounding landscape	L	H

Activity	Impact	Before Mitigation												After Mitigation												Confidence level	Mitigation measures	Irreplaceability	Reversibility
		Severity rating	Spatial scale	Duration	Consequence	Frequency of activity	Frequency of impact	Legal Issues	Detection	Likelihood	Significance	+/-	Risk Rating	Severity rating	Spatial scale	Duration	Consequence	Frequency of activity	Frequency of impact	Legal Issues	Detection	Likelihood	Significance	+/-	Risk Rating				
<b>Visual Impacts</b>																													
Presence of ancillary infrastructure	Change of visual character	2	3	4	9	5	2	1	2	10	90	-	M	1	2	3	6	5	1	1	1	8	48	-	L	75%	- Set up visual screens (such as trees, shrubs or hedges) along the perimeter of the study area - Consult a Botanist/Landscape Architect/Environmentalist to assist with selecting suitable vegetation for visual screens - Use suitable building finishes/colours that blend in with the surrounding landscape - Minimize the time spend by personnel onsite - Strategically plan the location of laydown areas so that it is not visible to surrounding areas	L	H
Operation of substations and ancillary infrastructure	Change of visual character	2	2	4	8	5	2	1	2	10	80	-	M	1	1	4	6	5	1	1	1	8	48	-	L	75%	- Minimize the time spent by personnel in vehicles onsite - Regulate speed at which heavy machinery/vehicles move	L	H
Heavy machinery and vehicle movement	Change of visual character	2	2	4	8	4	2	1	2	9	72	-	M	1	1	4	6	3	1	1	1	6	36	-	L	75%	- Regulate speed at which heavy machinery/vehicles move	L	H
Security and night-time lighting	Glare, light trespass, skyglow	2	2	4	8	5	3	1	2	11	88	-	M	1	1	4	6	5	2	1	1	9	54	-	L	75%	- choose suitable types of lighting that minimize glare and sky glow - Only focus light sources on where it is needed - Consult a qualified lighting engineer or lighting specialist - No spotlights should be used - Mounting light fixtures should be avoided - Utilize motion sensor lights at security buildings	L	H
<b>Decommissioning Phase (1 year)</b>																													
Heavy machinery and vehicle movement	Change of visual character	2	2	2	6	4	4	1	3	12	72	-	M	1	1	2	4	3	3	1	2	9	36	-	L	75%	- Minimize decommissioning duration - Regulate speed at which heavy machinery/vehicles move	L	H
Heavy machinery and vehicle movement	Dust creation	3	2	2	7	4	3	1	3	11	77	-	M	2	1	2	5	3	5	1	2	11	55	-	L	75%	- Dust suppression through increasing the moisture content in the ground - Minimize decommissioning duration - Regulate speed at which heavy machinery/vehicles move	L	H
Removal of infrastructure	Landscape visual change	2	2	4	8	5	4	1	3	13	104	+	M	2	2	4	8	5	4	1	3	13	104	+	M	75%	- Where infrastructure is removed, the disturbed areas should be rehabilitated appropriately and returned to its original state as far as possible - Consult a Botanist/Landscape Architect/Environmentalist to assist with the selection and placement of suitable vegetation for rehabilitation	N/A	N/A
Security and night-time lighting	Glare, light trespass, skyglow	3	2	2	7	4	3	1	3	11	77	-	M	2	1	2	5	3	5	1	2	11	55	-	L	75%	- choose suitable types of lighting that minimize glare and sky glow - Only focus light sources on where it is needed - Consult a qualified lighting engineer or lighting specialist - No spotlights should be used, especially on vehicles - Operational phase light fixtures should be removed	L	H
Revegetation of disturbed areas	Landscape visual change	2	2	4	8	5	4	1	3	13	104	+	M	2	2	4	8	5	4	1	3	13	104	+	M	75%	- Minimize deconstruction duration - Ensure effective rehabilitation and remediation of disturbed areas - Consult a Botanist/Landscape Architect/Environmentalist to assist with the selection and placement of suitable vegetation for rehabilitation	N/A	N/A
<b>Rehabilitation Phase (1 year)</b>																													
After closure rehabilitation - revegetation of disturbed areas	Landscape visual change	2	2	4	8	5	4	1	3	13	104	+	M	2	2	4	8	5	4	1	3	13	104	+	M	75%	- Develop an effective remediation and monitoring plan - Consult a Botanist/Landscape Architect/Environmentalist to assist with the selection and placement of suitable vegetation for rehabilitation - Ensure that indigenous vegetation is used to retain the vegetation structure of the surrounding area - Return the disturbed areas to its original state as far as possible	N/A	N/A



## 14 IMPACT ASSESSMENT DISCUSSION AND MITIGATION MEASURES

This section will discuss the results of the Impact Assessment and elaborate on the recommended mitigation measures to lower the visual impact where possible.

The aim of mitigation is to avoid, reduce and where possible remedy or offset, any significant negative effects on the environment arising from the proposed activity (GLVIA; 2008).

Mitigation measures should be:

- Economically feasible;
- Effective (time allowed for implementation and provision for management/maintenance); and
- Visually acceptable (within the context of the existing landscape).

To address these measures the following principles should be considered:

- Mitigation should be planned to fit into the existing landscape character. They should respect and build upon landscape distinctiveness;
- Mitigation should primarily aim to blend the proposed development into its surroundings and generally reduce its visibility; and
- It should be recognised that many mitigation measures, especially planting/rehabilitation, are not immediately effective.

In keeping with the above standards, the identified impacts, per phase, in relation to the general mitigation measures and mitigation measures regarding specific sensitive receptors for the proposed project are discussed in the sections below.

### 14.1 Construction Phase

It is anticipated that the impacts during the construction phase of the activity will be of medium negative significance for all expected impacts before mitigation (refer to Table 13-4). However, these impacts can be lowered to a low negative impact if the proposed mitigation measures are implemented.

The construction phase of the activity will involve the clearing of vegetation to make way for the proposed infrastructure and ancillary components of the proposed solar plant. This will inevitably cause negative impacts on aesthetics and a change in the visual landscape to some extent, keeping in mind the existing mining and industrial activities within the area. This impact can be limited to the site only if the existing vegetation bordering the proposed firebreaks on either side of the perimeter fence is maintained as far as possible. The construction footprint should also be limited, and a botanist/Landscape Architect/Environmentalist should be consulted during this process.

During the construction phase, some level of dust suppression is also expected through vegetation removal and the movement of heavy machinery and vehicles. This impact is most likely to be site specific however, it should be ensured that dust suppression be undertaken when necessary to avoid any dust particles travelling to the surrounding towns. Dust suppression activities through increasing the moisture content in the ground should be a viable mitigation measure at this stage due to its temporary nature. The movement of heavy machinery and vehicles should also be limited to existing disturbed areas so as to avoid any unnecessary vegetation damage and additional changes to the landscape. The speeds at which these vehicles travel should also be regulated.

The change of visual character of the study area and within 5 Km of the site is also expected from the construction phase, mainly due to the presence of temporary site camps and laydown areas and the presence of construction waste material. It should be ensured that the laydown areas and site camps be located in an area where it will not be visible to the surrounding communities. The vegetation retained on the perimeter of the site area will also assist in screening these ancillary activities. All construction waste material should be discarded at a legal waste facility, however if it must be stored onsite it should be stored and maintained in an orderly manner. Personnel on site should also be restricted to areas only where they are needed.

During the construction phase, night lighting at the site camp and for security purposes will be required. The type and positioning of this lighting should be carefully considered. A qualified lighting engineer or lighting specialist should be consulted during this phase to recommend suitable lighting types and lighting positions/angles to limit potential light pollution. The primary goal should be to contain the light to the areas that need illumination and to prevent glare from the activities. The strategic placement of lighting covers and shields have the potential to mitigate the impacts of glare and light trespass effectively (Creagh, 2019). Light fittings should also be directed only to areas where needed. Motion sensor lights should be used at security facilities to limit unnecessary illumination.

Precaution on the type of lighting that is used on vehicles in and around the study area should be emphasised to ensure safety on and around the site. Specific mention should be made to the potentially dangerous levels of glare from LDV's. Recently improved lighting technology enables modern on-road vehicles to be generally capable of focusing the maximum possible amount of light on the road, while minimising wasted light and glare for oncoming traffic. The same technology should be applied to heavy machinery and vehicles to prevent light impacting the visual receptors. The construction period should also be limited to daylight hours when possible to avoid additional lighting impacts.

It is important to note that extended durations of visual exposure can lead to higher cumulative weightings, and as such the construction phase should be optimized to minimize the construction duration. The site manager should monitor all mining activities throughout this phase to ensure that mitigation measures are adhered to and to minimize visual impacts where possible.

Regarding the irreplaceability and reversibility of the proposed impacts, these are seen to be of low and high significance, respectively. The potential damage and removal of vegetation can be replaced where possible after the construction phase is over. During the construction phase it is recommended that any removed vegetation should be suitably stored in a designated area and well maintained such that it can be used to replace removed vegetation if necessary. The landscape visual change and change of visual character can also be reversed following the construction phase as there will be less construction activity and less heavy machinery present on site.

The moderate VAC of the vegetation and the existing mining and industrial activities within the immediate vicinity of the study area also need to be considered. The bushveld vegetation present within 5 Km of the area will partially screen the construction phase activities of the solar plant. Furthermore, the surrounding areas are currently exposed to personnel, construction vehicles, and LDV's travelling to and from the mining and industrial areas. Therefore, the construction phase of the solar plant will add to the cumulative visual impact within the area however, it will not be of significant impact if the recommended mitigation measures are adhered to.

## 14.2 Operational Phase

It is anticipated that the impacts during the operational phase of the activity will be of medium negative significance (refer to Table 13-4). The following mitigation measures are recommended to lower the visual impact, however the presence of the PV Panels will remain as a medium negative impact.

Mitigation measures include retaining the vegetation bordering the proposed firebreaks along the study area perimeter, ensuring that infrastructure is always maintained in a neat and visually acceptable manner and using suitable building finishes and colours that blend in with the surrounding landscape. It is important to note that due to the surface area and colour of the PV Panels, the visual impact is difficult to mitigate completely however, by implementing the mitigation measures recommended in Table 13-4, the potential visual impact of the solar plant can be lowered.

A change of visual character is also expected within this phase through the operation of the infrastructure and the potential machinery and vehicles on site. However, the machinery and vehicles on site will be much less than during the construction phase. It should be ensured that the time spent by personnel and vehicles onsite be minimized where possible and the speed of vehicles should be regulated.

Regarding security and night lighting, the same mitigation measures recommended for the construction phase should be applied to the operational phase of the activity. It should be ensured that the lighting be directed only where it is needed and that the light sources be regularly inspected and maintained.

From a cumulative perspective, it is important to note that the proposed solar plant is expected to blend in with the existing coal mine and power stations due to its proximity to these activities. The moderate VAC of the bushveld vegetation and the existing activities will aid in lowering the solar plant's potential visual impact. Furthermore, the sensitive receptors are currently exposed to night lighting from operational activities of the existing mining and industrial activities within the area. Therefore, the expected impacts from the solar plant will add to the cumulative visual impacts however, it will not be significant if the recommended mitigation measures are adhered to.

Regarding the irreplaceability and reversibility of the proposed impacts, these are seen to be of low and high significance, respectively for all operational impacts apart from the PV Panels. These ratings only apply if the infrastructure of the proposed solar plant is removed at the end of its use. The potential damage and removal of vegetation can be replaced where possible after the operational phase is over. Vegetation growth is possible under the PV panels, should the mounting structure and foundation be removed, these areas will have to be rehabilitated. Therefore, the impacts caused by the PV Panels is also considered moderately reversible. Overall, the impacts are reversible and the lost resources can be replaced with effort.

Where possible, the footprint areas of disturbed areas should be minimized. Limiting the footprint areas will directly limit the resulting visual impact on the surrounding environment and the sensitive receptors within the environment. The site manager should monitor all site activities throughout this phase to ensure that mitigation measures are adhered to and to minimize visual impacts where possible.



### 14.3 Decommissioning and Rehabilitation Phases

Table 13-4 indicates that during the decommissioning and rehabilitation phases, it is anticipated that the removal of infrastructure and subsequent rehabilitation of the study area will have a medium positive impact before and after mitigation. These ratings apply only if all infrastructure is removed during this phase. The remaining impacts caused by the activities required to remove the infrastructure is expected to be of medium negative impact however, it can be lowered to a low negative impact if the recommended mitigation measures are adhered to.

The decommissioning phase is expected to entail the removal of all proposed infrastructure. The area will then be rehabilitated appropriately. Dust creation, a change in visual character and light pollution are all expected impacts of the decommissioning phase. All mitigation measures recommended in Table 13-4 , section 14.1 and 14.2 for these impacts should be adhered to during this stage. The rating of these impacts also considered the fact that the surrounding sensitive receptors would have been visually impacted by the solar plant over its lifespan and therefore the impacts of the decommissioning phase may not be as significant.

The impact of revegetation and rehabilitation of the site is of a medium positive impact. This is assuming that all infrastructure is removed at closure. It is recommended that the area be returned to its natural state as far as possible to ensure that the negative visual impacts on the surrounding areas can be limited. Any elements which require reshaping and revegetation should be planned with the input of a landscape architect, botanist and/or an environmentalist. The site manager should monitor all activities throughout this phase to ensure that mitigation measures are adhered to and to minimize visual impacts where possible.

The irreplaceability and reversibility of the identified negative impacts have been rated as low and high, respectively. It is anticipated that any vegetation removed during the decommissioning phase can be easily rehabilitated. It is also anticipated that the change in visual character will be quickly reversed when all construction vehicles, personnel and lighting are removed from the study area. The irreplaceability and reversibility of the positive impacts were not rated as the revegetation and rehabilitation of the area will be permanent.

Lastly, it is recommended that dust suppression and monitoring of revegetated/rehabilitated areas is conducted at least quarterly for a one-year period after the closure of the facility. This will ensure that sensitive receptors experience limited exposure to any dust until the areas are completely rehabilitated.

#### 14.4 Mitigation Measures Specific to Critical Receptors

The cumulative results from the visibility analysis presented in Section 12.2.9.5 indicated that a few homesteads, the Lephale Marapong Housing area, Marapong and the secondary road between the mine dump and slimes dam will experience the highest visual impacts from the proposed solar plant. Specific mitigation measures to limit the visual impacts on these identified high sensitivity sensitive receptors are discussed below.

##### Homesteads, Lephale Marapong Housing and Marapong

Visual screens/berms using indigenous trees, shrubs or hedges should be constructed on the border of the proposed firebreaks, along the northern, southern and eastern parts of the study area. While these visual screens may not completely screen the study site, it will partially screen the infrastructure and soften the visual impact experienced by these highly sensitive receptors. The visual screen/berm would also act as a natural barrier, to some extent, to any dust or light pollution that may result from the proposed development phases. This would have to be done in consultation with a qualified botanist to assist with the best tree/shrub/hedge types for the local climatic and water requirements. Indigenous trees would be preferable. It is also important to note that there is existing bushveld vegetation present around the study area. If the bushveld around the perimeter of the study area remains intact and undisturbed during the construction, operational and decommissioning phases of the activity, this will act as a visual screen. It must therefore be ensured that this vegetation be maintained, is effective and present at all times during the solar plants lifespan.

From the site visit it was noted that there is a dense amount of vegetation present along the outskirts of Marapong and the Lephale Marapong Housing Area. This vegetation will also aid in limiting the visual exposure of the proposed solar plant from these areas. It should also be noted that these sensitive receptors are currently exposed to some extent to existing operations within the area and that the proposed solar plant will not add a significant visual impact to these receptors. However, the recommended mitigation measures should still be implemented in order to minimise any additional cumulative visual impacts that the solar plant may cause.

##### The secondary road running between the mine dump and slimes dam

Visual screens/berms using trees, shrubs or hedges should be constructed in close proximity of the perimeter fence along western area of the proposed solar plant to partially screen the proposed development from tourists travelling along the secondary road. It should be noted that travellers on this road already experience visual impacts from parts of the coal mine on the west and of the Matimba Power Station on the east. However, the visual screen should

be implemented to avoid additional cumulative visual impacts. Motorists/tourists should also be made aware that they will be driving past the Lephalale Solar Plant which will warn the motorist/tourist of the potential visual impacts ahead. This can be done by signs placed at relevant sections along the road.

## 15 CONCLUSIONS AND RECOMMENDATIONS

GCS were requested to conduct a Visual Impact Assessment for the proposed Lephalale Solar project which would entail the development of a PV solar plant up to 256 ha in extent with a generation capacity of approximately 100 MWp. The report examined the receiving environment and a visibility analysis was conducted which informed the overall level of potential visual impact that may be caused by the proposed solar plant. Relevant mitigation measures were recommended based on the identified potential visual impacts.

The evaluation of the receiving environment indicated that the area surrounding the study area comprises of existing industrial and mining features, built up areas and homesteads. This region is characterised by natural bushveld which can be consistently seen throughout the site and the surrounding areas. The presence of existing industrial and mining activities and the natural bushveld make up the area's current sense of place. Considering these aspects, the proposed solar plant's impact on the area's current sense of place is expected to be low throughout its lifespan.

The area was categorized as an area of moderate VAC due to the partial screening by existing vegetation as well as the presence of mining and industrial activities. The Visual Intrusion expected from the proposed development was categorized as low as the proposed solar plant is expected to blend in with the existing surroundings.

Sensitive receptors within the receiving environment were also identified and grouped as high and moderate sensitivity receptors. The high sensitivity sensitive receptors are considered the key receptors due to the type of receptor and their proximity to the study area. The key sensitive receptors identified for this study were the surrounding towns, homesteads, private nature reserves and the surrounding road network.

A visibility analysis was conducted on the proposed infrastructure which were considered to be the most visually intrusive components of the project namely the PV Panels, the onsite and tie-in substations and the proposed transmission line. The resulting cumulative viewshed indicated that the visibility of the proposed solar plant will be restricted mostly to the eastern areas of the development, the town of Marapong, the Lephalale Marapong Housing area and the secondary road. However, it remains important to note that the moderate VAC levels of

the existing vegetation and the presence of the existing mining and industrial activities within the area will partially screen the proposed development from the sensitive receptors.

The potential visual impacts from the proposed development were rated using a standard impact rating system for use in the overall EIA. The potential impacts were rated for each phase of the proposed project. The rating of each impact also took into consideration the current sense of place of the study area as well as the study area's VAC. Suitable recommendations were thereafter made to help mitigate the identified potential impacts.

Overall, the impact assessment indicated that the proposed development will be of medium negative significance before mitigation is implemented for the construction, operational and parts of the decommissioning stage. These potential visual impacts relate to the potential change in visual character, landscape visual change, dust creation and light pollution. Once the recommended mitigation measures are implemented, these impacts can be lowered to a low negative impact. However, it is difficult to mitigate the visual impact of the proposed PV Panels due to their surface area and colour however, the recommended mitigation measures (if adhered to) can lower these impacts.

At decommissioning, it is expected that all main infrastructure will be removed, and the area will be rehabilitated appropriately. The visual impacts caused by the decommissioning stage with regards to rehabilitation is seen as a positive impact and it is recommended that the area be returned to its natural state as far as possible. Dust suppression and monitoring of revegetated/rehabilitated areas should also be conducted at least quarterly for a one-year period after the closure of the facility. This will ensure that sensitive receptors experience limited exposure to any dust until the areas are completely rehabilitated.

Mitigation measures relating specifically to the impacted sensitive receptors i.e. the Lephalale Marapong Housing area, Marapong town, specific homesteads and the secondary road included; a visual berm to be constructed on the border of the proposed firebreaks along the entire proposed perimeter fence in order to partially screen and soften the potential visual impacts of the solar plant on these high sensitive receptors.

From a cumulative perspective, it is important to note that the proposed solar plant is expected to blend in with the existing coal mine and power stations due to its close proximity to these activities. The moderate VAC of the surrounding area will aid in lowering the solar plant's potential visual impact. Furthermore, the sensitive receptors are currently exposed to night lighting from operational activities of the existing mining and industrial activities within the area. Therefore, the expected impacts from the solar plant will be low.



Overall, the VIA demonstrates that the proposed Lephalale Solar project can be successfully accommodated and assimilated into the surrounding landscape without causing significant harm to the landscape character or visual amenity of the area, provided that the recommended mitigation measures are adhered to. Furthermore, the proposed project keeps in line with the development plan of the area which is to facilitate economic and mining development processes within the municipality and create the potential to be the national pioneers in the Green Economy. Lastly, it is recommended that should the designs/heights or the locations of the proposed infrastructure be altered, an updated VIA should be completed to include the new designs for a more accurate VIA.

---

## References

- Climate Mtubatuba. Meteoblue. [Online] Available at [https://www.meteoblue.com/en/weather/historyclimate/climatemodelled/marapong\\_republic-of-south-africa\\_8629684](https://www.meteoblue.com/en/weather/historyclimate/climatemodelled/marapong_republic-of-south-africa_8629684) [Accessed 21 July 2021].
- Creagh, B. (2019). Reducing glare at mine sites - Australian Mining. [online] Australian Mining. Available at: <https://www.australianmining.com.au/features/reducing-glare-from-mine-site-truck-headlights/> [Accessed 14 Nov. 2019].
- Department of Forestry, Fisheries and the Environment. (2021). South Africa Protected Areas Database (SAPAD\_OR\_2021\_Q1). [Online] Available at <http://egis.environment.gov.za> [Accessed 14 July 2021].
- International Dark-Sky Association (IDSA). Light Pollution. <https://www.darksky.org/light-pollution/> [Accessed 21 July 2021].
- Japan Aerospace Exploration Agency. ALOS Global Digital Surface Model "ALOS World 3D - 30m (AW3D30)". [Online] Available at <https://www.eorc.jaxa.jp/ALOS/en/aw3d30/index.htm> [Accessed 14 July 2021].
- Landscape Institute and the Institute of Environmental Assessment and Management. (2008), Guidelines for Landscape and Visual Impact Assessment (GLVIA). Second Edition, E & FN Spon Press.
- Newtown Landscape Architects (NEWLA). (2014). Proposed Tharisa Platinum Mine North Eastern Waste Rock Dump Elandsdrift, North West Province. Fourways, South Africa.
- Oberholzer, B. (2005). Guideline for involving visual & aesthetic specialists in EIA processes: Edition 1. CSIR Report No ENV-S-C 2005 053 F. Republic of South Africa, Provincial Government of the Western Cape, Department of Environmental Affairs & Development Planning, Cape Town.
- South African National Biodiversity Institute (2006- ). The Vegetation Map of South Africa, Lesotho and Swaziland, Mucina, L., Rutherford, M.C. and Powrie, L.W. (Editors), Online, <http://bgis.sanbi.org/SpatialDataset/Detail/18>, Version 2018.

Swanwick, C. and Land Use Consultants (2002). Landscape character assessment guidance for England and Scotland, Cheltenham: Countryside Agency and Battle by: Scottish National Heritage.

Tekplan Environmental (2007). Establishment of Proposed Housing Development (to be known as Marapong Extension 7) located on the remainder and portion 1 of the Farm Nelsonkop 464 LQ, Lephalale Local Municipality, Waterberg District, Limpopo Province. Polokwane.

**APPENDIX A: SPECIALIST CV'S**



**APPENDIX B: NEMA: EIA REGULATIONS (2014, AS AMENDED)**

## APPENDIX C: CATEGORIES OF DEVELOPMENT AS PER OBERHOLZER (2005)

<i>Box 2: Key to Categories of Development</i>
<p><b>Category 1 development:</b> e.g. nature reserves, nature-related recreation, camping, picnicking, trails and minimal visitor facilities.</p> <p><b>Category 2 development:</b> e.g. low-key recreation / resort / residential type development, small-scale agriculture / nurseries, narrow roads and small-scale infrastructure.</p> <p><b>Category 3 development:</b> e.g. low density resort / residential type development, golf or polo estates, low to medium-scale infrastructure.</p> <p><b>Category 4 development:</b> e.g. medium density residential development, sports facilities, small-scale commercial facilities / office parks, one-stop petrol stations, light industry, medium-scale infrastructure.</p> <p><b>Category 5 development:</b> e.g. high density township / residential development, retail and office complexes, industrial facilities, refineries, treatment plants, power stations, wind energy farms, power lines, freeways, toll roads, large-scale infrastructure generally. Large-scale development of agricultural land and commercial tree plantations. Quarrying and mining activities with related processing plants.</p>

## APPENDIX D: LEVELS OF VISUAL IMPACT AS PER OBERHOLZER (2005)

<i>Box 3: Key to Categories of Issues</i>
<p>Very high visual impact expected: Potentially significant effect on wilderness quality or scenic resources; Fundamental change in the visual character of the area; Establishes a major precedent for development in the area.</p>
<p>High visual impact expected: Potential intrusion on protected landscapes or scenic resources; Noticeable change in visual character of the area; Establishes a new precedent for development in the area.</p>
<p>Moderate visual impact expected: Potentially some affect on protected landscapes or scenic resources; Some change in the visual character of the area; Introduces new development or adds to existing development in the area.</p>
<p>Minimal visual impact expected: Potentially low level of intrusion on landscapes or scenic resources; Limited change in the visual character of the area; Low-key development, similar in nature to existing development.</p>

## APPENDIX E: KEY APPROACHES AND METHODS OBERHOLZER (2005)

*Box 6: Key to Approaches and Methods***Level 1 assessment:****Approach:**

Visual screening report by EIA Practitioner / visual specialist.

**Method:**

Identification of issues raised in scoping phase, and site visit;

Brief comment on visual influence of the project, and assessment of expected impacts / benefits.

**Level 2 assessment:****Approach:**

Visual scoping report by visual specialist or competent professional.

**Method:**

Identification of issues raised in scoping phase, and site visit;

Description of the receiving environment and the proposed project;

Establishment of view catchment area and receptors;

Brief indication of potential visual impacts, and possible mitigation measures.

**Level 3 assessment:****Approach:**

Visual impact assessment report by visual specialist or competent professional/s.

Review by independent, experienced visual specialist (if required).

**Method:**

Identification of issues raised in scoping phase, and site visit;

Description of the receiving environment and the proposed project;

Establishment of view catchment area, view corridors, viewpoints and receptors;

Indication of potential visual impacts using established criteria;

Inclusion of potential lighting impacts at night;

Description of alternatives, mitigation measures and monitoring programmes.

**Level 4 assessment:****Approach:**

Visual impact assessment report by independent visual specialist.

Review by independent, experienced visual specialist (if required).

**Method:**

As per Level 3 assessment, plus complete 3D modeling and simulations, with and without mitigation.



## APPENDIX F: DETAILED IMPACT ASSESSMENT/MATRIX

The assessment of potential impacts was addressed in a standard manner to ensure that a wide range of impacts were comparable. The ranking criteria and rating scales were applied to all specialist studies for this project. The following methodology was used to rank these impacts. Clearly defined rating and rankings scales (Table 1 - Table 7) were used to assess the impacts associated with the proposed activities. The impacts identified by each specialist study and through public participation were combined into a single impact rating table for ease of assessment.

Each identified impact was assessed in terms of severity, spatial scale and duration (temporal scale). Consequence was then determined as follows:

Table 1: Severity or magnitude of impact

Insignificant/non-harmful (no loss of species / habitat)	1
Small/potentially harmful (replaceable loss with minimal effort)	2
Significant/slightly harmful (replaceable loss of species / habitat with great effort and investment)	3
Highly Significant/harmful (impact to human health or welfare / loss of species / habitat)	4
Extremely Significant /extremely harmful/within a regulated sensitive area (loss of human life / irreplaceable loss of Red Data species / conservation habitat)	5

Table 2: Spatial Scale - extent of area being impacting upon

Area specific (at impact site)	1
Whole site (entire surface right)	2
Local (within 5Km)	3
Regional/neighbouring areas (5 Km to 50 Km)	4
National	5

Table 3: Duration of activity

One day to one month (immediate - immediately reversible with minimal effort)	1
One month to one year (Short term - reversible)	2
One year to 10 years (medium term - difficult to reverse with effort)	3
Life of the activity (long term - very difficult to reverse with extensive effort)	4
Beyond life of the activity (permanent - not reversible)	5

Table 4: Frequency of activity - how often activity is undertaken

Improbable / almost never / Annually or less	1
Low probability / Very seldom / 6 monthly	2
Medium probability / Infrequent / Temporary / Monthly	3
Highly probable / Often / semi-permanent / Weekly	4
Definite / Always / permanent / Daily	5

Table 5: Frequency of incident/impact - how often activity impacts environment

Almost never/almost impossible/>20%	1
Very seldom/highly unlikely/>40%	2
Infrequent/unlikely/seldom/>60%	3
Often/regularly/likely/possible/>80%	4
Daily/highly likely/definitely/>100%	5

Table 6: Legal Issues - governance of activity by legislation

No legislation	1
Fully covered by legislation	5

Table 7: Detection - how quickly/easily impacts/risks of activity on environment, people and property are detected

Immediately (easier to mitigate)	1
Without much effort	2
Need some effort	3
Remote and difficult to observe	4
Covered (more difficult to mitigate)	5

$$\text{Consequence} = \text{Severity} + \text{Spatial Scale} + \text{Duration}$$

The risk of the activity was then calculated based on frequencies of the activity and impact, whether the activity is governed by legislation and how easily it can be detected:

$$\text{Likelihood} = \text{Frequency of Activity} + \text{Frequency of Impact} + \text{Legal issues} + \text{Detection}$$

The risk of each identified impact was then based on the product of consequence and likelihood.

$$\text{Risk} = \text{Consequence} \times \text{Likelihood}$$

Impacts were rated as either of high, moderate or low significance on the basis provided in Table 8. Each impact was also assessed in terms of the level to which there is an irreplaceable loss of resources and its degree of reversibility. The ratings as described in Table 9 and Table 10.

Table 8: Impact Significance Ratings

SIGNIFICANCE RATING	CLASS (NEGATIVE IMPACT)	CLASS (POSITIVE IMPACT)
1 - 55	(L) Low Significance	(L) Low Significance
56 - 169	(M) Moderate Significance	(M) Moderate Significance
170 - 600	(H) High Significance	(H) High Significance

Table 9: Irreplaceability of resource caused by impacts

No irreplaceable resources will be impacted (the affected resource is easy to replace/rehabilitate)	Low
Resources that will be impacted can be replaced, with effort	Medium
Project will destroy unique resources that cannot be replaced	High

Table 10: Reversibility of impacts

Low reversibility to non-reversible	Low
Moderate reversibility of impacts	Medium
High reversibility of impacts	High

It is important to note that for the VIA, the ratings in rating Table 7 had to be changed as indicated in Table 11 below. This is because from a visual aspect, if the activity can be seen immediately, it is a high negative impact as this is unwanted. However, if the activity is completely covered, the activity is difficult for a viewer to observe, and this is more preferable from a visual perspective.

Table 11: Detection - how quickly/easily impacts/risks of activity on environment, people and property are detected

Immediately (easier to mitigate)	5
Without much effort	4
Need some effort	3
Remote and difficult to observe	2
Covered (more difficult to mitigate)	1

It is also important to note that the duration of the presence of the PV Panels, Substations, transmission line and ancillary structures during the operational phase of the activity after mitigation was rated a “3 - One year to 10 years (medium term - difficult to reverse with effort)”. This rating was not based on the life span of the infrastructure but was rated on the difficulty to reverse the impact. After mitigation measures are implemented, it is most likely that the visual impact of the proposed development will be minimised. The impact will be minimised in terms of intensity/difficulty to reverse and not minimised based on years. Therefore the impacting rating was lowered from a 4 (before mitigation) to a 3 (after mitigation).

**APPENDIX A: SPECIALIST CV'S**





Nakéla Naidoo

GIS Consultant

## CORE SKILLS

- Geographic Information Science
- Cartography
- Visual Impact Assessments
- ArcGIS
- Global Mapper
- QGIS
- Interactive Mapping

## DETAILS

### Qualifications

- Bachelor of Science Honours in Environmental Science - University of KwaZulu-Natal (2016)
- Bachelor of Science in Environmental Science - University of KwaZulu-Natal (2013-2015)
- DST-NRF Freestanding Honours Scholarship

### Membership

- Golden Key International Honours Society
- GISSA
- SACNASP (Cand.Sci.Nat)

### Languages

- English
- Basic Afrikaans

### Countries Worked In

- South Africa

## PROFILE

Nakéla is a Geographic Information Systems (GIS) Consultant at GCS (Pty) Ltd (GCS) where she is responsible for spatial data processing, map outputs and Visual Impact Assessments. Her daily administrative duties, within her GIS role, includes managing and monitoring workloads and compiling proposals and budgets.

In addition to her GIS responsibilities, she assists with Environmental projects where she has helped complete Water Use Licence Applications, Basic Assessment Reports and Environmental Management Plans.

Nakéla is a self-motivated individual who pays attention to detail and acts with a sense of urgency. She is both an independent worker and a team player who displays good communication, time management and organisational skills.

### Professional Affiliations:

- SACNASP (Cand.Sci.Nat)

### Areas of Expertise:

- Geographic Information Systems;
- Visual Impact Assessments;
- Data management/processing;
- Report writing;
- Water Use Applications;
- Basic Assessment Reports; and
- Managing and monitoring workloads.



## Work Experience

Period	Employer	Position	Role/ Responsibility
2019 - Present	GCS (Pty) Ltd	GIS Consultant	<ul style="list-style-type: none"> <li>-Responsible for all GIS requirements for all units within GCS</li> <li>-Visual Impact Assessments</li> <li>-Managing and monitoring workloads</li> </ul>
2018-2019	GCS (Pty) Ltd	Environmental Science Intern	-Assisting the Environmental Unit with Environmental Applications, Basic Assessment Reports and Water Use Licenses
June 2017 - 2018	Sappi	Environmental Science Intern	-Assisting the SHEQ Department with water and ambient air quality monitoring, monthly reporting and safety requirements
February 2017 - May 2017	University of KwaZulu-Natal	Research Assistant	-Summarizing research papers



## Project Experience

Year	Client	Project Description/Requirements	Role/Responsibility
2020	EXXARO	Interactive mapping using ArcGIS Online	GIS Consultant
2020	RSK-GCS	Locality maps, topography maps, geology maps, infrastructure maps, site layouts	GIS Consultant - Cartography
2020	RGM	Mapping for Sasol Tweefontein - Site layout, groundwater assessment layout, soil assessment layout, wetland delineation layouts, sensitivity layout and infrastructure layout	GIS Consultant - Cartography
2020	Department of Water Affairs (Lesotho)	The expansion of the National Groundwater Monitoring Network of Lesotho.	GIS Consultant - Technical Processing and Analysis
2020	AngloGold Ashanti	Visual Impact Assessment for the Kareerand Tailings Storage Facility Extension	GIS Consultant - Reporting
2019/2020	Tendele Coal Mining	Visual Impact Assessment for the Somkhele Anthracite Mine	GIS Consultant - Analysis and Reporting
2019	GCS Specialists	Mapping for projects related to alternative energy	GIS Consultant
2019	Buffalo Coal	Completed the Phase 2 Visual Impact Assessment for a proposed powerline, substation and skid-mounted transformer	GIS Consultant - Analysis and Reporting
2019	GCS Specialists	Three dimensional representations of traverses for Geophysicists/Hydrogeologists	GIS Consultant
2019	GCS Specialists	Sub-catchment delineations for Hydrologists and Hydrogeologists.	GIS Consultant
2018/2019	South32 SA Coal	Assisted with the Water Use Licence Application for the Roy Point Mine	Environmental - Report update
2019	Tendele Coal Mining	Visual Impact Assessment for a proposed mining pit extension	GIS Consultant - Analysis and Reporting
2018	Buffalo Coal	Completed the Phase 1 Visual Impact Assessment for a proposed powerline, substation and skid-mounted transformer	GIS Consultant - Analysis and Reporting
2018	Buffalo Coal	Completed the Environmental Status Quo report and Environmental Management Plan for an existing mine dump	Environmental Science Intern - Site Visit and Report Compilation
2018	Buffalo Coal	Assisted in the completion of the Basic Assessment Report, Integrated Water and Waste Management Plan, Environmental Management Plan and Integrated Water Use Licence Application.	Environmental Science Intern
2018	Element Consulting Engineering	Involved in the Public Participation Process	Environmental Science Intern

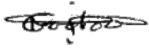


## Project Experience

---

### DECLARATION

I, Nakela Naidoo hereby declare that the details furnished above are true and correct to the best of my knowledge and belief and I undertake to inform you of any changes therein, immediately. In case any of the above information is found to be false or untrue or misleading or misrepresenting, I am aware that I may be held liable for it.

Signature:  Date: 07/06/2021





## MAGNUS VAN ROOYEN

---

### Technical Director

#### CORE SKILLS

- Environmental Impact Assessments
- Scoping Reports
- Preliminary Environmental Assessment
- Mining Right and Applications
- Environmental Management Programmes
- Strategic Environmental Assessments
- Wildlife Management Plans

#### DETAILS

##### Qualifications

- BSc - Botany & Zoology
- B.SC Honours - Botany
- Specialist Student
- Post Graduate Diploma in Teaching
- Masters Degree: Environmental Management

##### Memberships

- SACNASP
- International Association of Impact Assessors

##### Languages

- English - fluent
- Afrikaans- fluent
- German - fair
- Dutch - fair
- Zulu - adequate

#### PROFILE

In addition to holding a Masters Degree: Environmental Management, Magnus also holds a BSc degree in Botany and Zoology, an Honours Degree in Botany and a Post Graduate Certificate in Education.

Magnus has 13 years' experience in projects involving Environmental Impact Assessments in various developmental sectors (Mining and Agricultural Sector, National Roads, Pipelines, Dams, and Residential Developments), conducting of Specialist Biodiversity Assessments associated with Environmental Impact Assessments and Project Feasibility Studies. He has experience in the compilation of Resettlement Policy Framework Plans associated with infrastructure development projects.

Magnus has experience in working on various private and public sectors as well as rural and urban environments in various countries.

His expertise lies within the mining sector where he has gained extensive exposure to all the aspects of mining projects from the pre-feasibility, prospecting, environmental impact assessment

Magnus has experience in the following areas:

- Environmental Impact Assessments
- Scoping Reports
- Preliminary Environmental Assessment
- Mining Right and Permit Applications
- Environmental Management Programmes
- Strategic Environmental Assessments
- Wildlife Management Plans

## WORK EXPERIENCE

<b>Year</b>	<b>Employer</b>	<b>Position</b>	<b>Role and Responsibility</b>
2007 - 2020	JG Afrika (Pty) Ltd	Executive Associate	Project Management of an environmental contingent of 4 people and conducting Environmental Impact Assessments
2006 - 2007	JG Afrika (Pty) Ltd	Environmental Scientist	Conducted a wide range of infrastructure related Environmental Impact Assessments
2002 - 2005	Department of Conservation Ecology, University of Stellenbosch	Biodiversity Researcher	Conducted field work, sampling, laboratory work and logistics associated with two projects within the Conservation Ecology Department
2002 - 2005	Department of Botany and Zoology, University of Stellenbosch	Junior Lecturer in Botany	Lectured Botany practical component of the first-year Natural Science Degree
2001 - 2002	Paul Roos Gymnasium	Biology Teacher	Teaching the South African Biology curriculum to high school students

# PROJECT EXPERIENCE

<p><b>Biodiversity Assessment Projects</b></p>	<p><b><u>Biodiversity Assessment Projects</u></b></p> <p><b>Mamatwan Tailings Facility</b>          Biodiversity and Wetland Assessment for the site to be used for the establishment of the new tailings facility on the South32 Mamatwan Manganese Mine near Hotazel.</p> <p><b>Hillside Aluminum Desalination Plant</b>          Biodiversity Screening Assessment for the infrastructure network associated with the South32 Hillside Aluminum Desalination Plant in Richards Bay.</p> <p><b>Lichtenburg Siding Expansion</b>          Biodiversity Assessment for the proposed expansion of the Lichtenburg Cement Siding, North West Province.</p> <p><b>Nacala Dam Project</b>          Riparian Vegetation Study for the Ecological Reserve Determination Specialist Study for the Environmental Impact Assessment for the Nacala Dam Project in Mozambique.</p> <p><b>National Route N8</b>          Vegetation Specialist Study for the Environmental Impact Assessment for the National Route N8.          National Route N2 uMgeni Interchange Improvements Environmental Impact Assessment for proposed improvements to the uMgeni Road Interchange and the National Route N2. The project included an extensive public participation process within the city of Durban, KwaZulu-Natal during the process.</p> <p><b>Oudeni Link Road</b>          Vegetation Specialist Study for the Environmental Impact Assessment for the Oudeni Rural Link Road.</p> <p><b>Municipal Landfill Site Identification</b>          Negative mapping and ground truthing for the options analysis for the identification of a District Municipality Landfill Site.</p>
<p><b>Port Related Projects</b></p>	<p><b>Pier 1 Phase 2 expansion</b>          Environmental Impact Assessment for proposed expansions to Pier 1 within the Durban Harbour.          Locomotive Turning Table in the Port of Richards Bay Environmental Impact Assessment for proposed Locomotive Turn Table in within the Port of Richards Bay.</p> <p><b>Rail line construction in the Port of Richards Bay</b>          Environmental Impact Assessment for proposed additional rail line into the Richards Bay Coal Terminal in the Port of Richards Bay.</p>

## PROJECT EXPERIENCE

	<p><b>Environmental Monitoring - RME Projects Durban Harbour</b> Environmental Monitoring Duties for all the RME construction projects within the Durban harbour.</p> <p><b>Ore Loading Facility at Kalia in Guinea</b> Environmental Impact Assessment for the proposed Ore Loading Facility in Kalia in Guinea, West.</p>
Roads Projects	<p><b>National Route N2 uMgeni Interchange Improvements</b> Environmental Impact Assessment for proposed improvements to the uMgeni Road Interchange and the National Route N2. The project included an extensive public participation process with a range of public and private sector stakeholders.</p> <p><b>National Route N11 upgrade</b> Environmental Impact Assessment for proposed upgrade of the National Route N11. The project included a public participation process with a range of public and private sector stakeholders as well as specialist studies associated with the river crossings.</p> <p><b>National Route N2 improvement and upgrade</b> Environmental Impact Assessment for proposed upgrade of the National Route N2. The project included a public participation process with a range of public and private sector stakeholders as well as specialist studies associated with the river crossings.</p> <p><b>National Route N3 Chota Motala Interchange Environmental Audits</b> Environmental Monitoring for the construction of the Chota Motala Interchange on the National Route N3.</p> <p><b>National Route R30 Environmental Audits</b> Environmental Monitoring for the construction of the National Route R30.</p>
Agricultural Projects	<p><b>uMngano Community Dairy Development Project</b> Environmental and Social Impact Assessment for the Development of a 200ha dairy for the uMngano Community in KwaZulu-Natal, South Africa.</p> <p><b>uMngano Community Vegetable Project</b> Environmental and Social Impact Assessment for the Development of a 180ha vegetable growing project for the uMngano Community in KwaZulu-Natal, South Africa.</p> <p><b>Sundays River Citrus Project</b> Environmental and Social Impact Assessment for the Development of a 100ha citrus project in the Sundays River Valley in the Eastern Cape, South Africa.</p>
Water Projects	<p><b>Nacala Dam project in Mozambique for the Millennium Challenge Corporation</b> Environmental and Social Impact Assessment for the Nacala Dam project in Nacala, Mozambique. The study included the management of a range of specialist studies which included; biodiversity (fauna and flora) assessments, health impact assessments, social impact assessments, a hydrocensus, geotechnical investigation and an ecological flow requirement assessment. The project was conducted under the auspices</p>



## PROJECT EXPERIENCE

	<p>of the Millennium Challenge Corporation.</p> <p><b>Mpofana Bulk Water Supply Scheme Environmental Impact Assessment for the Bulk Water Supply Scheme</b> which included an extensive public facilitation process with affected landowners and other specialist studies.</p> <p><b>KwaHlokoHloko Rural Water Supply Scheme Environmental Impact Assessment for the Rural Water Supply Scheme</b> which included an extensive public facilitation process with the rural landowners and tribal leaders.</p> <p><b>Conservation Management Plans</b></p> <p><b>Ndumo Game Reserve Management Plan</b> Compilation of the Management Plan for the KwaZulu-Natal Wildlife Ndumo Game Reserve in northern KwaZulu-Natal. The compilation was conducted in accordance to the National Environmental Management: Protected Areas Act (No 57 of 2003).</p>
<p><b>Mining Projects</b></p>	<p>Uithoek Colliery for Miranda Mineral Holdings Environmental Impact Assessment for the establishment of the Uithoek Colliery including the management of a range of specialist studies which included a hydrological and geohydrological assessment, a biodiversity assessment, a social and heritage assessment and a repatriation plan for residents on the site.</p> <p><b>Burnside Colliery for Miranda Mineral Holdings</b> Environmental Impact Assessment for the establishment of the Burnside Colliery including the management of a range of specialist studies which included a hydrological and geohydrological assessment, a biodiversity assessment, a social and heritage assessment and a repatriation plan for residents on the site.</p> <p><b>Ultimate Goal Colliery for Corobrik (Pty) Ltd</b> Environmental Impact Assessment for the establishment of the Ultimate Goal Colliery including the management of a range of specialist studies which included a hydrological and geohydrological assessment, a biodiversity assessment, a social and heritage assessment and a repatriation plan for residents on the site.</p> <p><b>Klipwaal Gold Mine for Miranda Mineral Holdings</b> Environmental Due Diligence assessment on the Klipwaal Gold Mine which included an assessment of completed and required rehabilitation, a contaminated land liability assessment and an evaluation of the structure and the possible impact of the slurry dams.</p> <p><b>Afrimat Quarries Compliance Audits</b> Compliance audits and Due Diligence assessments of the Afrimat Quarry operations in South Africa. These audits are conducted on a two yearly basis.</p> <p><b>Private and Public Sector Development Projects</b> Provincial Legislature Precinct Environmental and Social Impact Assessment for the proposed Provincial Legislature Precinct. This study consisted of a large public facilitation component and extensive engagement with private and public sector stakeholders.</p>

# PROJECT EXPERIENCE

	<p><b>Camps Drift Canal Mixed Use Development</b> Environmental Impact Assessment for proposed improvements to the uMgeni Road Interchange and the National Route N2. The project included an extensive public participation process within the city of Durban, KwaZulu-Natal during the process.</p> <p><b>Tiger Lodge Development</b> Environmental Impact Assessment for the proposed Tiger Lodge Tourism Development.</p> <p><b>Paradise Lodge Development</b> Environmental Impact Assessment for the proposed Paradise Lodge Tourism Development.</p>
--	---

## DECLARATION

I, Magnus Van Rooyen hereby declare that the details furnished above are true and correct to the best of my knowledge and belief and I undertake to inform you of any changes therein, immediately. In case any of the above information is found to be false or untrue or misleading or misrepresenting, I am aware that I may be held liable for it.

Signature:

Date: 27/02/2021



UNIVERSITY OF STELLENBOSCH

*This is to certify that whereas*

MAGNUS VAN ROOYEN

*had complied with all the conditions prescribed  
in the Act, Statute and Rules of the University,  
the degree*

MASTER OF PHILOSOPHY  
(MPhil)  
(Environmental Management)

*with all the rights and privileges pertaining thereto was conferred on  
him at a congregation of the University in December 2004.*

RECTOR AND VICE CHANCELLOR

  
DEAN

Endorsement: This is a duplicate of the original certificate, which was lost or destroyed as far as can be determined by the University.



REGISTRAR  
21 November 2006

This certificate was issued in both Afrikaans and English. In the unlikely event of an inconsistency in the wording, the Afrikaans text shall have precedence.



THE SOUTH AFRICAN COUNCIL  
FOR  
NATURAL SCIENTIFIC PROFESSIONS

herewith certifies that

**Magnus van Rooyen**

Registration number: 400335/11

is registered as a

**Professional Natural Scientist**

in terms of section 20(3) of the Natural Scientific Professions Act, 2003

(Act 27 of 2003)

in the following field(s) of practice

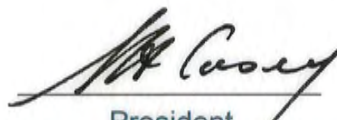
(Schedule I of the Act)

**Environmental Science**

**31 August 2011**

31 August 2011

Pretoria

  
\_\_\_\_\_  
President

  
\_\_\_\_\_  
Chief Executive Officer





**SAS ENVIRONMENTAL GROUP OF COMPANIES –  
SPECIALIST CONSULTANT INFORMATION**

**CURRICULUM VITAE OF SANJA ERWEE**

**PERSONAL DETAILS**

---

Position in Company	GIS Technician and Visual Specialist
Joined SAS Environmental Group of Companies	2014

**EDUCATION**

---

**Qualifications**

BSC Zoology (University of Pretoria)	2013
--------------------------------------	------

**Short Courses**

Global Mapper	2015
SANBI BGIS Course	2017
Global Mapper Lidar Course	2017
ESRI MOOC ARCGIS Cartography	2018

**AREAS OF WORK EXPERIENCE**

---

**South Africa** – Gauteng, Mpumalanga, North West, Limpopo, KwaZulu-Natal, Northern Cape, Western Cape  
Free State

**KEY SPECIALIST DISCIPLINES**

---

**Freshwater Assessments**

- Desktop Freshwater Delineation
- Plant species and Landscape Plan

**Visual Impact Assessment**

- Visual Baseline and Impact Assessments
- Visual Impact Peer Review Assessments
- View Shed Analyses
- Visual Modelling

**GIS**

- Mapping and GIS for various sectors and various disciplines (biodiversity, freshwater, aquatic, soil and land capability).



**SAS ENVIRONMENTAL GROUP OF COMPANIES**  
**SPECIALIST CONSULTANT INFORMATION - CURRICULUM VITAE OF**  
**STEPHEN VAN STADEN**

### **PERSONAL DETAILS**

---

Position in Company	Managing Member, Group CEO, Water Resource Discipline Lead, Ecologist, Aquatic Ecologist
Date of Birth	13 July 1979
Nationality	South African
Languages	English, Afrikaans
Joined SEGC	2003 (year of establishment)
Other Business	Trustee of the Serenity Property Trust

### **MEMBERSHIP IN PROFESSIONAL SOCIETIES**

---

- Registered Professional Scientist at South African Council for Natural Scientific Professions (SACNASP)
- Accredited River Health Practitioner by the South African River Health Program (RHP)
- Member of the South African Soil Surveyors Association (SASSO) Member of the Gauteng Wetland Forum
- Member of the Gauteng Wetland Forum;
- Member of International Association of Impact Assessors (IAIA) South Africa;
- Member of the Land Rehabilitation Society of South Africa (LaRSSA)

### **EDUCATION**

---

#### **Qualifications**

MSc Environmental Management (University of Johannesburg)	2003
BSc (Hons) Zoology (Aquatic Ecology) (University of Johannesburg)	2001
BSc (Zoology, Geography and Environmental Management) (University of Johannesburg)	2000

#### **Short Courses**

Integrated Water Resource Management, the National Water Act, and Water Use Authorisations, focusing on WULAs and IWWMPs	2017
Tools for Wetland Assessment (Rhodes University)	2017
Legal liability training course (Legricon Pty Ltd)	2018
Hazard identification and risk assessment training course (Legricon Pty Ltd)	2018
Wetland Management: Introduction and Delineation (WLID1502S) (University of the Free State)	2018
Hydropedology and Wetland Functioning (TerraSoil Science and Water Business Academy)	2018

### **DEVELOPMENT SECTOR EXPERIENCE**

---

1. Mining: Coal, chrome, Platinum Group Metals (PGMs), mineral sands, gold, phosphate, river sand, clay, fluorspar
2. Linear developments (energy transmission, telecommunication, pipelines, roads)

3. Minerals beneficiation
4. Renewable energy (Hydro, wind and solar)
5. Commercial development
6. Residential development
7. Agriculture
8. Industrial/chemical

## **CORE FIELDS OF EXPERTISE**

---

### **Legislative Requirements, Processes and Assessments**

- Water Use Applications (Water Use Licence Applications / General Authorisations)
- Environmental and Water Use Audits
- Freshwater Resource Management and Monitoring as part of EMPR and WUL conditions

### **Freshwater Assessments**

- Freshwater (wetland / riparian) Delineation and Assessment
- Freshwater Eco Service and Status Determination
- Rehabilitation Assessment / Planning
- Maintenance and Management Plans
- Plant Species and Landscape Plans
- Freshwater Offset Plans
- Hydropedological Assessment
- Pit Closure Analysis

### **Aquatic Ecological Assessment and Water Quality Studies**

- Habitat Assessment Indices (IHAS, HRC, IHIA & RHAM)
- Aquatic Macro-Invertebrates (SASS5 & MIRAI)
- Fish Assemblage Integrity Index (FRAI)
- Fish Health Assessments
- Riparian Vegetation Integrity (VEGRAI)
- Toxicological Analysis
- Water quality Monitoring
- Screening Test
- Riverine Rehabilitation Plans

### **Biodiversity Assessments**

- Floral Assessments
- Biodiversity Actions Plan (BAP)
- Biodiversity Management Plan (BMP)
- Alien and Invasive Control Plan (AICP)
- Ecological Scan
- Terrestrial Monitoring
- Biodiversity Offset Plan

### **Soil and Land Capability Assessment**

- Soil and Land Capability Assessment
- Hydropedological Assessment

### **Visual Impact Assessment**

- Visual Baseline and Impact Assessments
- Visual Impact Peer Review Assessments

## **COUNTRIES OF WORK EXPERIENCE**

---

The SAS Group has undertaken work in numerous countries in Africa. Please refer to the figure below where light blue indicates areas where limited work has been undertaken and dark blue indicates areas where numerous projects have been completed.



South Africa – All Provinces

Southern Africa – Lesotho, Botswana, Mozambique, Zimbabwe Zambia

Eastern Africa – Tanzania, Mauritius

West Africa – Ghana, Liberia, Angola, Guinea Bissau, Nigeria, Sierra Leone

Central Africa – Democratic Republic of the Congo

### SELECTED PROJECT EXAMPLES: AFRICA

Stephen has authored and consulted on over 3000 projects in his career. These projects range from short professional opinions through to biodiversity and other specialist studies for some of the largest mining and industrial developments across Africa with study areas exceeding 6000km for linear developments and 60 000 ha for mining developments. Additionally, Stephen has worked on and acted as the lead consultant on several Environmental Impact Assessments and water Use Licencing applications. Selected project examples in the region include:

PROJECT	COUNTRY
Baseline aquatic, wetland, faunal and floral assessment for the proposed Cacata Phosphate Project in Cabinda	Angola
Baseline wetland, aquatic, faunal and floral assessment for the proposed Lucunga Phosphate Project, Angola	Angola
Baseline faunal and floral assessment for the proposed Project Alto Cuilo Diamond Mine in Angola (est 10 000 ha)	Angola
Baseline faunal and floral and soil mapping assessment for the Limpopo Lipadi Game and Wilderness reserve, Botswana. (60 000 ha)	Botswana
Baseline faunal, floral and aquatic assessments for a proposed new township development near Lubumbashi, DRC (4000ha)	Democratic Republic of Congo
Baseline faunal, floral and aquatic assessments for the Namoya Gold Mine in Namoya, South Kivu, DRC	Democratic Republic of Congo
Baseline faunal, floral and aquatic assessments for the Kinsenda Copper Mine south of Lubumbashi, DRC	Democratic Republic of Congo
Baseline faunal, floral and aquatic assessments for a proposed new township development in Takoradi, Ghana (3000ha)	Ghana
Baseline faunal and floral assessment and soil typing for the proposed GB phosphate Mining Project, Guinea Bissau, West Africa. (Est 20 000 ha)	Guinea Bissau
Baseline faunal, floral, aquatic, wetland, soil and land capability assessments, and Environmental Impact Assessment, for the proposed Lesotho Border Road	Lesotho
Baseline faunal and floral assessment for the proposed Mano River Resources Gold Project, Liberia West Africa (est 5000 ha)	Liberia
Biodiversity and ecological assessments for the site selection process of a new airport in Tete, Mozambique	Mozambique
High level risk assessment considering the biodiversity for the Dangote Ankpa colliery, Nigeria	Nigeria
Tulawaka Gold Mine Ecological closure requirements as part of mine closure planning, Tanzania	Tanzania



Baseline wetland and aquatic assessment for the Kitwe Tailings project in Kitwe, Zambia	Zambia
Baseline Freshwater resource and biodiversity assessment for a proposed wind energy facility near Katete, Zambia (est 35,000 ha)	Zambia

### SELECTED PROJECT EXAMPLES OUT OF OVER 3000 PROJECTS COMPLETED

PROJECT NAME	PROJECT DESCRIPTION PER DEVELOPMENT SECTOR	PROVINCE
<b>LINEAR</b>		
N3 De Beers Pass Route	Wetland and Aquatic Assessment	KwaZulu Natal
SANRAL N4 Upgrades	Faunal, Floral and Wetland Assessments	Mpumalanga
Gautrain Rapid Rail Ext Project	Due Diligence Feasibility Study	Gauteng
N11 Section 13x Mokopane Ring Road	Biodiversity, Aquatic And Wetland Ecological Assessment	Limpopo
SASOL Gas Pipeline	Watercourse Rehab & Management Plan	Gauteng
Bylsbridge Development	Biomonitoring Programme and Monthly ECO	Gauteng
<b>MINING</b>		
Tronox Namakwa Sands Mine Expansion	Floral, Faunal and Wetland Ecological Assessments	Western Cape
Brikor Limited	Wetland Rehabilitation and Water Use Licence Audits	Gauteng
Fuleni Anthracite Coal Project	Biodiversity, Wetland, Aquatic and Visual Impact Assessments	KwaZulu Natal
Leandra Colliery	Biodiversity, Wetland, Aquatic and Visual Impact Assessments	Gauteng
The Dual Project	Biodiversity, Wetland, Aquatic and Visual Impact Assessments	Limpopo
TGME Pilgrims Rest	Biodiversity, Wetland, Aquatic and Visual Impact Assessments	Mpumalanga
Barberton Mines (Fairview, Consort, Sheba)	Aquatic biomonitoring assessments	Mpumalanga
Modikwa Platinum Mine Integrated Water Management Study	Freshwater And Aquatic Ecological Assessment & Management Plan	Limpopo
Dwars River Catchment For Dwars River Environmental Forum (DREF)	Mass and Salt Load Study	Limpopo
Sibanye Stillwater Akanani Mine	Biodiversity, Wetland, Soils And Visual Impact Assessment	Limpopo
Thaba Chueu Operations	Annual Water Quality Monitoring & Biomonitoring	Mpumalanga
Samada Diamonds	Water Use Authorisation And Specialist Studies	Free State
AngloAmerican Amandeult Mine Complex	Biodiversity Assessment	Limpopo
Nkomati Nickel Mine	Biodiversity, Wetland and Aquatic Assessments	Mpumalanga
Gravenhage Mine	Watercourse Ecological Assessment & Hydropedological Study	Northern Cape
Glencore Mine Operations (Thornciffe, Magareng and Helena)	Biodiversity External Audit & Biodiversity Management and Monitoring Plan	Limpopo
Ikwezi Mine	Freshwater Assessment, Biodiversity Monitoring, Freshwater Rehabilitation Plan & WULA	KwaZulu Natal
Welstand Colliery	Hydropedological Assessment	Mpumalanga
Kebrafield Colliery	Wetland and Hydropedological Assessments and Wetland Offset	Mpumalanga
<b>INDUSTRIAL CHEMICALS</b>		
Anchor Yeast	Freshwater Assessment	KwaZulu Natal
Sasol Sludge Plant	Wetland And Aquatic Assessment	Mpumalanga
NCP Alcohols	Freshwater Assessment	Gauteng
Enstra Paper/Blesbokspruit (SAPPI)	Quarterly Biomonitoring and Toxicity Testing	Gauteng
Phesantekraal Light Industrial Development	Stormwater Management	Western Cape
<b>INFRASTRUCTURE</b>		
Mzimvubu Dam	Full Ecological Assessments	Eastern Cape
Vissershok Dams	WULA And Wetland Assessment	Western Cape
Tshwane WWTW	Freshwater Ecological Assessment	Gauteng
Assmang Machadorp Works	Ongoing Aquatic Biomonitoring Programme	Mpumalanga

uMkhomazi Water Project	Biodiversity Offset	KwaZulu Natal
Sishen Western Dewatering Infrastructure Project	Floral Species of Conservation Concern & Tree Marking	Northern Cape
Richards Bay Coal Terminal	Estuarine Ecological Assessment	KwaZulu Natal
Vopak Richards Bay Harbour South Dunes Precinct	Wetland Offset Initiative	KwaZulu Natal
SASOL Fine Ash Dam-6 Borrow Pit	Hydropedological And Freshwater Assessments	Mpumalanga
Kwaduzuka WWTW	Freshwater Ecological Assessment	KwaZulu Natal
New Cargo Precinct (OR Tambo Airport)	Terrestrial & Freshwater Ecological Assessments	Gauteng
COMMERCIAL & RESIDENTIAL DEVELOPMENT		
Thusaneng Housing Project	Biodiversity Study	Gauteng
Blue Hills Eco Estate	Flora, Faunal And Wetland Assessment	Gauteng
Val De Vie Estate	Integrated WULA; Watercourse Rehabilitation Plan	Western Cape
Riversands Commercial Hub – Bridge Crossings	Environmental Control Officer	Gauteng
Carlswald Valley Residential Estate	Wetland Assessment and Wetland Rehabilitation Plan	Gauteng
AM Lodge	Terrestrial Ecological Habitat Sensitivity Assessment	Limpopo
Blair Athol Estate	Freshwater & Aquatic Ecological Assessment	Gauteng
Birchleigh North Ext 4 Housing Development	Wetland and Hydropedological Assessment	Gauteng
M&T Development various mixed use development projects	Freshwater, Biodiversity and Aquatic Assessments	Gauteng
Century Property various mixed use development projects	Freshwater, Biodiversity and Aquatic Assessments	Gauteng
ADvTECH House various educational facility projects	Freshwater & Aquatic Assessments	Gauteng
RENEWABLE ENERGY		
Duhva Solar Plant	Full Ecological Assessments	Mpumalanga
Arnot Solar Plant	Full Ecological Assessments	Mpumalanga
Copperton Wind Energy Facility	Freshwater Assessment, Hydrology and WULA	Northern Cape
Haga Haga Wind Energy Facility	Freshwater Assessment, Visual Impact Assessment and WULA	Eastern Cape
Sutherland Wind Energy Facility	Freshwater Assessment	Northern Cape
Kruisvallei Hydroelectric Facility	WULA Audit	Free State
Olievenhoutbosch Solar Facility	Visual Impact Assessment	Gauteng
Erasmus Park Development	Visual Impact Assessment	Gauteng
AGRICULTURE		
Brand Se Baai Abalone Farm	Biodiversity Baseline Assessment	Western Cape
Doringbaai Aquaculture Farms	Biodiversity Assessment	Western Cape
Ptn 38 Elandspruit Farm	Biodiversity Assessment	Mpumalanga
Doornkloof Farm	Freshwater & Aquatic Ecological Assessment	KwaZulu Natal
Schoeman Boerdery - Olifants River	S24G Aquatic Ecological Assessment & Landscaping Plan	Limpopo
Salmon Farm	Basic Assessment process for the Industrialised Aquaculture Plant	Gauteng
Houtboschkloof Farm	Freshwater Assessment & Reserve Determination	Limpopo
MUNICIPAL		
Mutsho Powerstation	Freshwater ecological assessments	Limpopo
Fisantkraal WasteWater Treatment Works	Aquatic Biomonitoring	Western Cape
Braamfonteinspruit Rehabilitation (Joburg Roads Agency)	Floral, Faunal, Freshwater and Aquatic Assessments	Gauteng
Kleinmond Cemetery	Wetland and Hydropedological Assessments	Western Cape

## REFERENCES

---

**Marietjie Eksteen**  
**Managing Director: Jacana**  
**Environmental**  
Tel: 015 291 4015  
Email:  
[marietjie@jacanacc.co.za](mailto:marietjie@jacanacc.co.za)

**Daniel Cillie**  
**Director: Enprocon (Pty) Ltd**  
Tel: 034 326 3849  
Email:  
[danielcillie@telkomsa.net](mailto:danielcillie@telkomsa.net)

**Jaco Kleynhans**  
**Director: Jaco K Consulting**  
Tel: 013 243 7110  
Email: [jaco@jacokconsulting.co.za](mailto:jaco@jacokconsulting.co.za)

Yours faithfully



**STEPHEN VAN STADEN**

**APPENDIX B: NEMA: EIA REGULATIONS (2014, AS AMENDED)**





# Government Gazette Staatskoerant

REPUBLIC OF SOUTH AFRICA  
REPUBLIEK VAN SUID-AFRIKA

*Regulation Gazette*

**No. 10328**

*Regulasiekoerant*

Vol. 594

Pretoria, 4 December 2014

**No. 38282**

**PART 1 OF 2**

*N.B. The Government Printing Works will not be held responsible for the quality of "Hard Copies" or "Electronic Files" submitted for publication purposes*



9771682584003



**AIDS HELPLINE: 0800-0123-22 Prevention is the cure**

**IMPORTANT NOTICE**

The Government Printing Works will not be held responsible for faxed documents not received due to errors on the fax machine or faxes received which are unclear or incomplete. Please be advised that an "OK" slip, received from a fax machine, will not be accepted as proof that documents were received by the GPW for printing. If documents are faxed to the GPW it will be the sender's responsibility to phone and confirm that the documents were received in good order.

Furthermore the Government Printing Works will also not be held responsible for cancellations and amendments which have not been done on original documents received from clients.

**CONTENTS**

<i>No.</i>		<i>Page No.</i>	<i>Gazette No.</i>
<b>GOVERNMENT NOTICES</b>			
<b>Environmental Affairs, Department of</b>			
<i>Government Notices</i>			
R. 982	National Environmental Management Act (107/1998): Environmental Impact Assessment Regulations, 2014 .....	3	38282
R. 983	do.: Listing notice 1: List of activities and competent authorities identified in terms of sections 24 (2) and 24 D.....	75	38282
R. 984	do.: Listing notice 2: List of activities and competent authorities identified in terms of sections 24 (2) and 24 D.....	106	38282
R. 985	do.: Listing notice 3: List of activities and competent authorities identified in terms of sections 24 (2) and 24 D.....	120	38282

---

**GOVERNMENT NOTICES**

---

**DEPARTMENT OF ENVIRONMENTAL AFFAIRS****No. R. 982****4 December 2014****NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998  
(ACT NO. 107 OF 1998)****ENVIRONMENTAL IMPACT ASSESSMENT REGULATIONS, 2014**

I, Bomo Edith Edna Molewa, Minister of Environmental Affairs, hereby make the regulations pertaining to environmental impact assessments, under sections 24(5) and 44 of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as set out in the Schedule hereto.



**BOMO EDITH EDNA MOLEWA  
MINISTER OF ENVIRONMENTAL AFFAIRS**

**SCHEDULE****ARRANGEMENT OF REGULATIONS****CHAPTER 1****INTERPRETATION AND PURPOSE OF REGULATIONS**

1. Interpretation
2. Purpose of Regulations

**CHAPTER 2****TIMEFRAMES**

3. Timeframes
4. Notification of decision on application

**CHAPTER 3****GENERAL REQUIREMENTS FOR APPLICATIONS**

5. General
6. Where to submit application

***Part 1: Duties of competent authority***

7. Consultation between competent authority and organs of state administering a law relating to a matter affecting the environment
8. Guidance by competent authority to proponent or applicant
9. Format of forms

***Part 2: Duties of proponents and applicants***

10. Competent authorities' right of access to information
11. Combination of applications



12. Appointment of EAPs and specialists
13. General requirements for EAPs and specialists
14. Disqualification of EAPs and specialists
15. Determination of assessment process applicable to application

## CHAPTER 4

### APPLICATION FOR ENVIRONMENTAL AUTHORISATION

#### ***Part 1: General***

16. General application requirements
17. Checking of application for compliance with formal requirements
18. Criteria to be taken into account by competent authorities when considering applications

#### ***Part 2: Basic Assessment***

19. Submission of basic assessment report and environmental management programme, and where applicable closure plan, to competent authority
20. Decision on basic assessment application

#### ***Part 3: S&EIR***

21. Submission of scoping report to competent authority
22. Consideration of scoping report
23. Submission and consideration of environmental impact assessment reports and environmental management programme
24. Decision on S&EIR application

#### ***Part 4: Environmental authorisation***

25. Issue of environmental authorisation
26. Content of environmental authorisation

**CHAPTER 5****AMENDMENT, SUSPENSION, WITHDRAWAL AND AUDITING OF COMPLIANCE WITH ENVIRONMENTAL AUTHORISATION AND ENVIRONMENTAL MANAGEMENT PROGRAMME**

27. General

28. Application for amendment

***Part 1: Amendments where no change in scope or a change of ownership occur***

29. Amendments to be applied for in terms of Part 1

30. Process and consideration of application for amendment and decision

***Part 2: Amendment where a change in scope occurs***

31. Amendments to be applied for in terms of Part 2

32. Process and consideration of application for amendment

33. Decision on amendment application

***Part 3: Auditing and amendment of environmental authorisation, environmental management programme and closure plan***

34. Auditing of compliance with environmental authorisation, environmental management programme and closure plan

35. Amendment of environmental management programme or closure plan as a result of an audit

***Part 4: Other amendments of environmental management programme or closure plan***

36. Other amendments of environmental management programme or closure plan

37. Amendment of environmental management programme or closure plan on application by holder of environmental authorisation

***Part 5: Suspension and withdrawal of environmental authorisation***

38. Suspension and withdrawal of environmental authorisation

**CHAPTER 6****PUBLIC PARTICIPATION**

39. Activity on land owned by person other than proponent
40. Purpose of public participation
41. Public participation process
42. Register of interested and affected parties
43. Registered interested and affected parties entitled to comment on reports and plans
44. Comments of interested and affected parties to be recorded in reports submitted to competent authority

**CHAPTER 7****GENERAL MATTERS**

45. Failure to comply with requirements for consideration of applications
46. Resubmission of similar applications
47. Assistance to people with special needs
48. Offences

**CHAPTER 8****TRANSITIONAL ARRANGEMENTS AND COMMENCEMENT**

49. Definitions
50. Continuation of actions undertaken and authorisations issued under previous ECA regulations
51. Pending applications and appeals (ECA)
52. Continuation of actions undertaken and authorisations issued under previous NEMA regulations
53. Pending applications and appeals (NEMA)

54. Pending applications (MPRDA)
55. Continuation of regulations regulating authorisations for activities in certain coastal areas
56. Repeal of Environmental Impact Regulations, 2010
57. Short title and commencement

APPENDIX 1 BASIC ASSESSMENT REPORT

APPENDIX 2 SCOPING REPORT

APPENDIX 3 ENVIRONMENTAL IMPACT ASSESSMENT REPORT

APPENDIX 4 ENVIRONMENTAL MANAGEMENT PROGRAMME

APPENDIX 5 CLOSURE PLAN

APPENDIX 6 SPECIALIST REPORTS

APPENDIX 7 ENVIRONMENTAL AUDIT REPORT



## CHAPTER 1

### INTERPRETATION AND PURPOSE OF REGULATIONS

#### Interpretation

1. (1) In these Regulations any word or expression to which a meaning has been assigned in the Act has that meaning, and unless the context requires otherwise—

“**activity**” means an activity identified in any notice published by the Minister or MEC in terms of section 24D(1)(a) of the Act as a listed activity or specified activity;

“**Agreement**”, for the purpose of regulation 1(3) and (4) means the Agreement as contemplated in section 50A(2) of the Act;

“**alternatives**”, in relation to a proposed activity, means different means of meeting the general purpose and requirements of the activity, which may include alternatives to the—

- (a) property on which or location where the activity is proposed to be undertaken;
- (b) type of activity to be undertaken;
- (c) design or layout of the activity;
- (d) technology to be used in the activity; or
- (e) operational aspects of the activity;

and includes the option of not implementing the activity;

“**application**” means an application for an—

- (a) environmental authorisation in terms of Chapter 4 of these Regulations;
- (b) amendment to an environmental authorisation in terms of Chapter 5 of these Regulations;
- (c) amendment to an EMPr in terms of Chapter 5 of these Regulations; or
- (d) amendment of a closure plan in terms of Chapter 5 of these Regulations;

**“basic assessment report”** means a report contemplated in regulation 19;

**“closure plan”** means a plan contemplated in regulation 19;

**“cumulative impact”**, in relation to an activity, means the past, current and reasonably foreseeable future impact of an activity, considered together with the impact of activities associated with that activity, that in itself may not be significant, but may become significant when added to the existing and reasonably foreseeable impacts eventuating from similar or diverse activities;

**“EAP”** means an environmental assessment practitioner as defined in section 1 of the Act;

**“EMPr”** means an environmental management programme contemplated in regulations 19 and 23;

**“environmental audit report”** means a report contemplated in regulation 34;

**“environmental impact assessment”**, means a systematic process of identifying, assessing and reporting environmental impacts associated with an activity and includes basic assessment and S&EIR;

**“environmental impact assessment report”** means a report contemplated in regulation 23;

**“independent”**, in relation to an EAP, a specialist or the person responsible for the preparation of an environmental audit report, means—

(a) that such EAP, specialist or person has no business, financial, personal or other interest in the activity or application in respect of which that EAP, specialist or person is appointed in terms of these Regulations; or

(b) that there are no circumstances that may compromise the objectivity of that EAP, specialist or person in performing such work;

excluding—

(i) normal remuneration for a specialist permanently employed by the EAP; or

(ii) fair remuneration for work performed in connection with that activity, application or environmental audit;

**“linear activity”** means an activity that is arranged in or extending along one or more properties and which affects the environment or any aspect of the environment along the course of the activity, and includes railways, roads, canals, channels, funiculars, pipelines, conveyor belts, cableways, power lines, fences, runways, aircraft landing strips, and telecommunication lines;

**“minimum information requirements”** means the minimum information requirements contemplated in section 24(5)(bA)(viiiA), if any are applicable at the time of the application;

**“mitigation”** means to anticipate and prevent negative impacts and risks, then to minimise them, rehabilitate or repair impacts to the extent feasible;

**“National Appeal Regulations”** means the national appeal regulations published in terms of section 43(4) and 44 of the Act;

**“ocean-based activity”** means an activity in the territorial waters of the Republic of South Africa;

**“plan of study for environmental impact assessment”** means a study contemplated in regulation 22 which forms part of a scoping report and sets out how an environmental impact assessment will be conducted;

**“proponent”** means a person intending to submit an application for environmental authorisation and is referred to as an applicant once such application for environmental authorisation has been submitted;

**“receipt”** means receipt on the date indicated—

- (a) on a receipt form if the application or document was hand delivered or sent via registered mail;
- (b) in an automated or computer generated acknowledgment of receipt;
- (c) on an acknowledgement in writing from the competent authority as the date of receipt if the application or document was sent via ordinary mail; or
- (d) on an automated or computer generated proof of transmission in the case of a facsimile message.

**“registered environmental assessment practitioner or registered EAP”** means an environmental assessment practitioner registered with an appointed registration authority contemplated in section 24H of the Act;

**“registered interested and affected party”**, in relation to an application, means an interested and affected party whose name is recorded in the register opened for that application in terms of regulation 42;

**“scoping report”** means a report contemplated in regulation 21;

“**S&EIR**” means the scoping and environmental impact reporting process contemplated in regulation 21 to regulation 24;

“**significant impact**” means 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 negative effects of an impact on the environment based on criteria such as duration, magnitude, intensity and probability of occurrence ;

“**specialist**” means a person that is generally recognised within the scientific community as having the capability of undertaking, in conformance with generally recognised scientific principles, specialist studies or preparing specialist reports, including due diligence studies and socio-economic studies;

“**State department**” means any department or administration in the national or provincial sphere of government exercising functions that involve the management of the environment; and

“**the Act**” means the National Environmental Management Act, 1998 (Act No. 107 of 1998).

(2) Any reference in these Regulations to an environmental assessment practitioner will, from a date to be determined by the Minister by notice in the *Gazette*, be deemed to be a reference to a registered environmental assessment practitioner, as defined.

### **Purpose of Regulations**

2. The purpose of these Regulations is to regulate the procedure and criteria as contemplated in Chapter 5 of the Act relating to the preparation, evaluation, submission, processing and consideration of, and decision on, applications for environmental authorisations for the commencement of activities, subjected to environmental impact assessment, in order to avoid or mitigate detrimental impacts on the environment, and to optimise positive environmental impacts, and for matters pertaining thereto.



## CHAPTER 2

### TIMEFRAMES

#### Timeframes

3. (1) Subject to subregulations (2) and (3), when a period of days must in terms of these Regulations be reckoned from or after a particular day, that period must be reckoned as from the start of the day following that particular day to the end of the last day of the period, but if the last day of the period falls on a Saturday, Sunday or public holiday, that period must be extended to the end of the next day which is not a Saturday, Sunday or public holiday.

(2) For any action contemplated in terms of these Regulations for which a timeframe is prescribed, the period of 15 December to 5 January must be excluded in the reckoning of days.

(3) Unless justified by exceptional circumstances, as agreed to by the competent authority, the proponent and applicant must refrain from conducting any public participation process during the period of 15 December to 5 January.

(4) When a State department is requested to comment in terms of these Regulations, such State department must submit its comments in writing within 30 days from the date on which it was requested to submit comments and if such State department fails to submit comments within such 30 days, it will be regarded that such State department has no comments.

(5) Where a prescribed timeframe is affected by one or more public holidays, the timeframe must be extended by the number of public holiday days falling within that timeframe.

(6) The competent authority must acknowledge receipt of all applications and documents contemplated in regulations 16, 19, 21, 23, 29, 30, 31, 32 and 34 within ten days of receipt thereof.

(7) In the event where the scope of work must be expanded based on the outcome of an assessment done in accordance with these Regulations, which outcome could not be anticipated prior to the undertaking of the assessment, or in the event where exceptional circumstances can be demonstrated, the competent authority may, prior to the lapsing of the relevant prescribed timeframe, in writing, extend the relevant prescribed timeframe and agree with the applicant on the length of such extension.

(8) Any public participation process must be conducted for a period of at least 30 days.

**Notification of decision on application**

4. (1) Unless indicated otherwise, after a competent authority has reached a decision on an application, the competent authority must, in writing and within five days—
- (a) provide the applicant with the decision;
  - (b) give reasons for the decision to the applicant; and
  - (c) where applicable, draw the attention of the applicant to the fact that an appeal may be lodged against the decision in terms of the National Appeals Regulations, if such appeal is available in the circumstances of the decision.
- (2) The applicant must, in writing, within fourteen days of the date of the decision on the application ensure that—
- (a) all registered interested and affected parties are provided with access to the decision and the reasons for such decision; and
  - (b) the attention of all registered interested and affected parties is drawn to the fact that an appeal may be lodged against the decision in terms of the National Appeals Regulations, if such appeal is available in the circumstances of the decision.
- (3) For the purpose of this regulation, the decision includes the complete environmental authorisation granted or refused.

**CHAPTER 3****GENERAL REQUIREMENTS FOR APPLICATIONS****General**

5. (1) All applications in terms of these Regulations must be decided upon by a competent authority.

(2) The competent authority, who must consider and decide upon an application in respect of a listed activity or specified activity, must be determined with reference to the notice published under section 24D(1) and any agreement in terms of section 24C(3) of the Act.

(3) A competent authority must keep—

- (a) a register of all applications received by the competent authority in terms of these Regulations;
- (b) a register of all decisions in respect of environmental authorisations;
- (c) copies of all applications; and
- (d) copies of all decisions.

(4) When a national electronic system is provided for the recording of applications for environmental authorisation, this system must be used by all competent authorities to keep the records referred to in subregulation (3)(a) and (b).

(5) When a national electronic system is provided for the submission of applications for environmental authorisation, this system must be used by all applicants.

(6) When providing coordinates as part of the information submitted regarding the location of an activity as part of an application for environmental authorisation, such coordinates must be provided in degrees, minutes and seconds using the Hartebeesthoek94 WGS84 co-ordinate system.

### **Where to submit application**

6. (1) An application for an environmental authorisation or environmental authorisations for the commencement of an activity must be made to the competent authority referred to in regulation 5.

(2) If the Minister is the competent authority in respect of an application, the application must be submitted to the Department.

(3) If an MEC is the competent authority in respect of an application, the application must be submitted to the provincial department responsible for environmental affairs in that province.

(4) If the Minister, Minister responsible for mineral resources or MEC has, in terms of section 42, 42B or 42A respectively of the Act, delegated any powers or duties of a competent authority

in relation to an application, the application must be submitted to the person or authority to whom the powers had been delegated.

(5) If the Minister responsible for mineral resources is the competent authority in respect of an application, the application must be submitted to the relevant office of the Department responsible for mineral resources as identified by that Department.

*Part 1: Duties of competent authority*

**Consultation between competent authority and organs of state administering a law relating to a matter affecting the environment**

7. (1) Where an agreement has been reached in order to give effect to Chapter 3 of the Constitution of the Republic of South Africa, 1996 and sections 24(4)(a)(i), 24K and 24L of the Act, and where such agreement is applicable to an application, such application must be dealt with in accordance with such agreement.

(2) The competent authority or EAP must consult with every organ of state that administers a law relating to a matter affecting the environment relevant to that application for an environmental authorisation when such competent authority considers the application and unless agreement to the contrary has been reached the EAP will be responsible for such consultation.

(3) Where an applicant submits an application for environmental authorisation in terms of these Regulations and an application for an authorisation, permit or licence in terms of a specific environmental management Act or any other legislation, the competent authority and the authority empowered under such specific environmental management Act or other legislation must manage the respective processes in a cooperative governance manner.

(4) Where the processes prescribed in terms of these Regulations are used to inform applications in terms of other legislation, application processes must be aligned to run concurrently.

(5) Where a competent authority is requested by an applicant to comment in terms of these Regulations, such competent authority must submit its comments within 30 days.

**Guidance by competent authority to proponent or applicant**

8. A competent authority, subject to the payment of any reasonable charges, if applicable—
- (a) may advise or instruct the proponent or applicant of the nature and extent of any of the processes that may or must be followed or decision support tools that must be used in order to comply with the Act and these Regulations;
  - (b) must advise the proponent or applicant of any matter that may prejudice the success of an application;
  - (c) must, on written request, furnish the proponent or applicant with officially adopted minutes of any official meeting held between the competent authority and the proponent, applicant or EAP; and
  - (d) must, on written request, provide access to the officially adopted minutes of meetings contemplated in paragraph (c), to any registered interested or affected party.

**Format of forms**

9. The format of any application form must be determined by the competent authority and must include, once established, the national sector classification of the activity applied for.

*Part 2: Duties of proponents and applicants***Competent authorities' right of access to information**

10. An applicant must—
- (a) use the application form contemplated in regulation 9 when submitting an application in terms of these Regulations;
  - (b) comply with any minimum information requirements for the application; and
  - (c) provide the competent authority with all information that reasonably has or may have the potential of influencing any decision with regard to an application.



**Combination of applications**

11. (1) If a proponent or proponents intend to undertake one or more than one activity of the same type at different locations within the area of jurisdiction of a competent authority, the competent authority may, on written request, grant permission for the submission of a single application.

(2) If the competent authority grants permission in terms of subregulation (1), the application must be dealt with as a consolidated assessment process, but the potential environmental impacts of each activity must be considered in terms of the location where the activity is to be undertaken.

(3) If a proponent or applicant intends undertaking more than one activity as part of the same development within the area of jurisdiction of a competent authority, a single application must be submitted for such development and the assessment of impacts, including cumulative impacts, where applicable, and consideration of the application, undertaken in terms of these Regulations, will include an assessment of all such activities forming part of the development.

(4) If one or more proponents intend undertaking interrelated activities at the same or different locations within the area of jurisdiction of a competent authority, the competent authority may, in writing, agree that the proponent or proponents submit a single application in respect of all of those activities and to conduct a consolidated assessment process but the potential environmental impacts of each activity, including its cumulative impacts, must be considered in terms of the location where the activity is to be undertaken.

(5) Where a combined application is submitted as contemplated in these Regulations, the proponent must, prior to submission of the application, confirm with the competent authority the fee payable in terms of the applicable regulations for such combined application.

**Appointment of EAPs and specialists**

12. (1) A proponent or applicant must appoint an EAP at own cost to manage the application.

(2) In addition to the appointment of an EAP, a specialist may be appointed, at the cost of the proponent or applicant, if the level of assessment is of a nature requiring the appointment of a specialist.

(3) The proponent or applicant must—

- (a) take all reasonable steps to verify whether the EAP and specialist complies with regulation 13(1)(a) and (b); and
- (b) provide the EAP and specialist with access to all information at the disposal of the proponent or applicant regarding the application, whether or not such information is favourable to the application.

### **General requirements for EAPs and specialists**

13. (1) An EAP and a specialist, appointed in terms of regulation 12(1) or 12(2), must—
- (a) be independent;
  - (b) have expertise in conducting environmental impact assessments or undertaking specialist work as required, including knowledge of the Act, these Regulations and any guidelines that have relevance to the proposed activity;
  - (c) ensure compliance with these Regulations;
  - (d) perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the application;
  - (e) take into account, to the extent possible, the matters referred to in regulation 18 when preparing the application and any report, plan or document relating to the application; and
  - (f) disclose to the proponent or applicant, registered interested and affected parties and the competent authority all material information in the possession of the EAP and, where applicable, the specialist, that reasonably has or may have the potential of influencing—
    - (i) any decision to be taken with respect to the application by the competent authority in terms of these Regulations; or
    - (ii) the objectivity of any report, plan or document to be prepared by the EAP or specialist, in terms of these Regulations for submission to the competent authority;

unless access to that information is protected by law, in which case it must be indicated that such protected information exists and is only provided to the competent authority.

(2) In the event where the EAP or specialist does not comply with subregulation (1)(a), the proponent or applicant must, prior to conducting public participation as contemplated in chapter 5 of these Regulations, appoint another EAP or specialist to externally review all work undertaken by the EAP or specialist, at the applicant's cost.

(3) An EAP or specialist appointed to externally review the work of an EAP or specialist as contemplated in subregulation (2), must comply with subregulation (1).

#### **Disqualification of EAPs and specialists**

14. (1) If the competent authority at any stage of considering an application has reason to believe that the EAP or specialist is not complying or has not complied with the requirements of regulation 13 in respect of the application, other than circumstances where the requirement of independence in regulation 13(1)(a) has been met by compliance with regulation 13(2) and (3), the competent authority may—

- (a) notify the EAP or specialist and the applicant of the reasons therefore, that the application is suspended until the matter is resolved and the extended timeframe for the processing of the application; and
- (b) afford the EAP or specialist and the applicant an opportunity to make representations to the competent authority regarding the suspected non-compliance with the requirements of regulation 13 of the EAP or specialist, in writing.

(2) Other than circumstances where the requirement of independence in regulation 13(1)(a) has been met by compliance with regulation 13(2) and (3), an interested and affected party may notify the competent authority of any suspected non-compliance with regulation 13.

(3) Where an interested and affected party notifies the competent authority of suspected non-compliance in terms of subregulation (2), the competent authority must investigate the allegation promptly.

(4) The notification referred to in subregulation (2) must be submitted in writing and must contain documentation supporting the allegation, which is referred to in the notification.

(5) If, after considering the matter, there is reason for the competent authority to believe that there is non-compliance with regulation 13 by the EAP or specialist, the competent authority must, in writing, inform the interested and affected party who notified the competent authority in terms of subregulation (2), the EAP or specialist and the applicant accordingly and may—

- (a) refuse to accept any further reports, plans, documents or input from the EAP or specialist in respect of the application in question;
- (b) request the applicant to –
  - (i) commission, at own cost, an external review, by another EAP or specialist that complies with the requirements of regulation 13, of any reports, plans or documents prepared or processes conducted in connection with the application;
  - (ii) appoint another EAP or specialist that complies with the requirements of regulation 13 to redo any specific aspects of the work done by the previous EAP or specialist in connection with the application or to complete any unfinished work in connection with the application; or
  - (iii) take such action as the competent authority requires to remedy the defects.

(6) If the application has reached a stage where a register of interested and affected parties has been opened in terms of regulation 42, the applicant must, within 7 days from the suspension in terms of sub-regulation (1)(a) or decision in terms of subregulation (5), inform all registered interested and affected parties of such suspension or decision.

**Determination of assessment process applicable to application**

15. (1) An EAP must identify whether basic assessment or S&EIR must be applied to the application, taking into account—
- (a) any notices published in terms of section 24D of the Act;
  - (b) any guidelines applicable to the application process or activity which is the subject of the application; and
  - (c) any advice given by the competent authority in terms of regulation 8.
- (2) An application must be managed in accordance with—
- (a) regulation 19 and 20 if basic assessment must be applied to the application; or
  - (b) regulation 21 to 24 if S&EIR must be applied to the application.
- (3) S&EIR must be applied to an application if the application is for two or more activities as part of the same development for which S&EIR must already be applied in respect of any of the activities.

**CHAPTER 4****APPLICATION FOR ENVIRONMENTAL AUTHORISATION***Part 1: General***General application requirements**

16. (1) An application for an environmental authorisation must—
- (a) be made on an official application form obtainable from the relevant competent authority; and
  - (b) when submitted in terms of regulation 19 or 21, be accompanied by—



- (i) unless regulation 39(2) applies, the written consent referred to in regulation 39(1), if the applicant is not the owner or person in control of the land on which the activity is to be undertaken;
  - (ii) proof of payment of the prescribed application fee, if any;
  - (iii) a declaration of interest by the EAP or specialist, which EAP or specialist meets all the requirements contemplated in regulation 13;
  - (iv) an undertaking under oath or affirmation that all the information submitted or to be submitted for the purposes of the application is true and correct;
  - (v) the report generated by the national web based environmental screening tool, once this tool is operational;
  - (vi) a description of the location of the activity, including
    - (aa) the 21 digit Surveyor General code of each cadastral land parcel,
    - (bb) where available, the physical address or farm name,
    - (cc) where the required information in sub-regulation (aa) and (bb) is not available, the coordinates of the boundary of the property or properties,
  - (vii) a plan which locates the proposed activity or activities applied for at an appropriate scale, or if it is—
    - (aa) a linear activity, a description and coordinates of the corridor in which the proposed activity or activities is proposed; or
    - (bb) on land where the property has not been defined, the coordinates of the area within which the activity is proposed;
  - (viii) any minimum information requirements for the application; and
  - (ix) where applicable, proof of acceptance of an application for any right or permit in terms of the Mineral and Petroleum Resources Development Act, 2002.
- (2) An application for an environmental authorisation may—
- (a) where applicable, only be submitted after the acceptance of an application for any right or permit in terms of the Mineral and Petroleum Resources Development Act, 2002;
  - (b) where section 24L of the Act applies, be submitted in the manner as agreed to by the relevant authorities.
- (3) Any report, plan or document submitted as part of an application must —
- (a) comply with any minimum information requirements for the application;
  - (b) be prepared in a format that may be determined by the competent authority; and
  - (c) take into account any applicable government policies and plans, guidelines, environmental management instruments and other decision making instruments that

have been adopted by the competent authority in respect of the application process or the kind of activity which is the subject of the application and indicate how the relevant information has been considered, incorporated and utilised.

#### **Checking of application for compliance with formal requirements**

17. Upon receipt of an application, the competent authority must check whether the application—
- (a) is properly completed and that it contains the information required in the application form;
  - (b) is accompanied by any other documents as required in terms of these Regulations; and
  - (c) has taken into account any minimum information requirements for the application or instructions or guidance provided by the competent authority to the submission of applications.

#### **Criteria to be taken into account by competent authorities when considering applications**

18. When considering an application the competent authority must have regard to section 24O and 24(4) of the Act, the need for and desirability of the undertaking of the proposed activity, any guideline published in terms of section 24J of the Act and any minimum information requirements for the application.

#### *Part 2: Basic assessment*

#### **Submission of basic assessment report and environmental management programme, and where applicable closure plan, to competent authority**

19. (1) Where basic assessment must be applied to an application, the applicant must, within 90 days of receipt of the application by the competent authority, submit to the competent authority –
- (a) a basic assessment report, inclusive of specialist reports, an EMPr, and where applicable a closure plan, which have been subjected to a public participation process of at least 30 days and which reflects the incorporation of comments received, including any comments of the competent authority; or
  - (b) a notification in writing that the basic assessment report, inclusive of specialist reports an EMPr, and where applicable, a closure plan, will be submitted within 140 days of receipt of the application by the competent authority, as significant changes have been made or significant new information has been added to the basic assessment report or EMPr or, where applicable, a closure plan, which changes or information was not contained in the reports or plans consulted on during the initial public participation process contemplated

in subregulation (1)(a) and that the revised reports or, EMPr or, where applicable, a closure plan will be subjected to another public participation process of at least 30 days.

(2) In the event where subregulation (1)(b) applies, the basic assessment report inclusive of specialist reports, an EMPr, and where applicable, the closure plan, which reflects the incorporation of comments received, including any comments of the competent authority, must be submitted to the competent authority within 140 days of receipt of the application by the competent authority.

(3) A basic assessment report must contain the information set out in Appendix 1 to these Regulations and, where the application for an environmental authorisation is for prospecting, exploration, extraction and primary processing of a mineral or petroleum resource or activities directly related thereto, the basic assessment report must address the requirements as determined in the regulations, pertaining to the financial provision for the rehabilitation, closure and post closure of prospecting, mining or production operations, made in terms of the Act.

(4) An EMPr must contain the information set out in Appendix 4 to these Regulations and, where the application for an environmental authorisation is for prospecting, exploration, extraction and primary processing of a mineral or petroleum resource or activities directly related thereto, the EMPr must address the requirements as determined in the regulations, pertaining to the financial provision for the rehabilitation, closure and post closure of prospecting, mining or production operations, made in terms of the Act.

(5) A closure plan is required where the application for an environmental authorisation relates to the decommissioning or closure of a facility.

(6) A closure plan must contain the information set out in Appendix 5 to these Regulations, and, where the application for an environmental authorisation is for prospecting, exploration, extraction and primary processing of a mineral or petroleum resource or activities directly related thereto, the closure plan must address the requirements as set in the regulations, pertaining to the financial provision for the rehabilitation, closure and post closure of prospecting, mining or production operations, made in terms of the Act.

(7) The content of a closure plan may be combined with the content of an EMPr on condition that the requirements of both Appendices 5 and 4, respectively, are met.

(8) A specialist report must contain all information set out in Appendix 6 to these Regulations.

**Decision on basic assessment application**

20. (1) The competent authority must within 107 days of receipt of the basic assessment report and EMPr, or where relevant the closure plan, in writing—

- (a) grant environmental authorisation in respect of all or part of the activity applied for; or
- (b) refuse environmental authorisation.

(2) To the extent that authorisation is granted for an alternative, such alternative must, for the purposes of subregulation (1), be regarded as having been applied for, consulted on and its impacts investigated.

(3) On having reached a decision, the competent authority must comply with regulation 4(1), after which the applicant must comply with regulation 4(2).

(4) The Minister responsible for mineral resources may only issue an environmental authorisation if the provisions of section 24P(1) of the Act have been complied with.

*Part 3: S&EIR***Submission of scoping report to competent authority**

21. (1) If S&EIR must be applied to an application, the applicant must, within 44 days of receipt of the application by the competent authority, submit to the competent authority a scoping report which has been subjected to a public participation process of at least 30 days and which reflects the incorporation of comments received, including any comments of the competent authority.

(2) Subject to regulation 46, and if the findings of the scoping report is still valid and the environmental context has not changed, the submission of a scoping report as contemplated in subregulation (1) need not be complied with—

- (a) in cases where a scoping report was accepted as part of a previous application for environmental authorisation and the application was refused because of insufficient information;
- (b) on condition that regulation 16 is complied with and that such application is accompanied by proof that registered interested and affected parties, who participated in the public participation process conducted as part of the previous application, have been notified of this intended resubmission of the application prior to submission of such application;

- (c) if the application contemplated in paragraph (b) is submitted by the same applicant for the same development, as applied for and refused as contemplated in paragraph (a); and
  - (d) if an environmental impact assessment report inclusive of specialist reports and an EMPr, which must have been subjected to a public participation process of at least 30 days and which reflects the incorporation of comments received, including any comments of the competent authority, is submitted within a period of two years from the date of the acceptance of the scoping report contemplated in paragraph (a).
- (3) A scoping report must contain all information set out in Appendix 2 to these Regulations.

### **Consideration of scoping report**

22. The competent authority must, within 43 days of receipt of a scoping report—

- (a) accept the scoping report, with or without conditions, and advise the applicant to proceed or continue with the tasks contemplated in the plan of study for environmental impact assessment; or
- (b) refuse environmental authorisation if—
  - (i) the proposed activity is in conflict with a prohibition contained in legislation; or
  - (ii) if the scoping report does not substantially comply with Appendix 2 to these Regulations and the applicant is unwilling or unable to ensure compliance with these requirements within the prescribed timeframe.

### **Submission and consideration of environmental impact assessment report and environmental management programme**

23. (1) The applicant must within 106 days of the acceptance of the scoping report submit to the competent authority—

- (a) an environmental impact report inclusive of any specialist reports, and an EMPr, which must have been subjected to a public participation process of at least 30 days and which reflects the incorporation of comments received, including any comments of the competent authority; or
- (b) a notification in writing that the environmental impact report inclusive of any specialist reports, and an EMPr, will be submitted within 156 days of acceptance of the scoping report by the competent authority, as significant changes have been made or significant new information has been added to the environmental impact report or



EMPr, which changes or information was not contained in the reports consulted on during the initial public participation process contemplated in subregulation (1)(a), and that the revised environmental impact report or EMPr will be subjected to another public participation process of at least 30 days.

(2) In the event where subregulation (1)(b) applies, the environmental impact report inclusive of specialist reports and EMPr, which reflects the incorporation of comments received, including any comments of the competent authority, must be submitted to the competent authority within 156 days of receipt of the application by the competent authority.

(3) An environmental impact report must contain all information set out in Appendix 3 to these Regulations and, where the application is for an environmental authorisation for prospecting, exploration, extraction and primary processing of a mineral or petroleum resource or activities directly related thereto, the environmental impact report must address the requirements as determined in the regulations, pertaining to the financial provision for the rehabilitation, closure and post closure of prospecting, mining or production operations, made in terms of the Act.

(4) An EMPr must contain all information set out in Appendix 4 to these Regulations and, where the application is for an environmental authorisation is for prospecting, exploration, extraction and primary processing of a mineral or petroleum resource or activities directly related thereto, the EMPr must address the requirements as determined in the regulations, pertaining to the financial provision for the rehabilitation, closure and post closure of prospecting, mining or production operations, made in terms of the Act.

(5) A specialist report must contain all information set out in Appendix 6 to these Regulations.

#### **Decision on S&EIR application**

**24.** (1) The competent authority must within 107 days of receipt of the environmental impact report and EMPr, in writing,—

(a) grant environmental authorisation in respect of all or part of the activity applied for; or

(b) refuse environmental authorisation.

(2) To the extent that authorisation is granted for an alternative, such alternative must for the purposes of subregulation (1) be regarded as having been applied for, consulted on and its impacts investigated.

(3) On having reached a decision, the competent authority must comply with regulation 4(1), after which an applicant must comply with regulation 4(2).

(4) The Minister responsible for Mineral Resources may only issue an authorization if the provisions of section 24P(1) of the Act have been complied with.

*Part 4: Environmental authorisation*

**Issue of environmental authorisation**

**25.** (1) If the competent authority decides to grant authorisation, the competent authority must issue an environmental authorisation or environmental authorisations complying with regulation 26 to, and in the name of, the applicant or applicants.

(2) If the competent authority decides to grant authorisation in respect of an application, the competent authority may issue a single environmental authorisation or multiple environmental authorisations in the name of the same or different applicants covering all aspects for which authorisation is granted.

(3) A competent authority may issue an integrated environmental authorisation as contemplated in section 24L of the Act.

(4) The competent authority may replace an existing valid environmental authorisation with an environmental authorisation contemplated in this regulation, indicating the extent of replacement in the environmental authorisation, if the existing valid environmental authorisation is directly related to the application for environmental authorisation.

**Content of environmental authorisation**

**26.** An environmental authorisation must specify—

- (a) the name, address and contact details of the person to whom the environmental authorisation is issued;
- (b) a description of the activity that is authorised;
- (c) a description of the location of the activity, including
  - (i) the 21 digit Surveyor General code of each cadastral land parcel,
  - (ii) where available, the physical address or farm name,
  - (iii) where the required information in sub-regulation (i) and (ii) is not available, the coordinates of the boundary of the property or properties,
  - (iv) a plan which locates the proposed activity or activities authorised at an appropriate scale, or, if it is—
    - (aa) a linear activity, a description and coordinates of the approved corridor of the activity or activities; or

- (bb) on land where the property has not been defined, the coordinates of the area within which the activity is to be undertaken;
- (d) the conditions subject to which the activity may be undertaken, including conditions determining—
  - (i) the period within which commencement must occur, which period may not exceed 10 years and may not be extended beyond such 10 year period, unless the process to amend the environmental authorisation contemplated in regulation 32 is followed;
  - (ii) the period for which the environmental authorisation is granted and the date on which the activity is deemed to have been concluded, where the environmental authorisation does not include operational aspects;
  - (iii) a distinction between the portions of the environmental authorisation that deal with operational and non-operational aspects respectively and the respective periods for which the distinct portions of the environmental authorisation is granted, where the environmental authorisation contains operational and non-operational aspects;
  - (iv) requirements for the avoidance, management, mitigation, monitoring and reporting of the impacts of the activity on the environment throughout the life of the activity additional to those contained in the approved EMPr, and where applicable the closure plan; and
- (e) the frequency of auditing of compliance with the conditions of the environmental authorisation and of compliance with the EMPr, and where applicable the closure plan, in order to determine whether such EMPr and closure plan continuously meet mitigation requirements and addresses environmental impacts, taking into account processes for such auditing prescribed in terms of these Regulations: provided that the frequency of the auditing of compliance with the conditions of the environmental authorisation and of compliance with the EMPr may not exceed intervals of five years;
- (f) the frequency of submission of an environmental audit report to the competent authority, including the timeframe within which a final environmental audit report must be submitted to the competent authority;
- (g) the frequency of updating the EMPr, and where applicable the closure plan, and the manner in which the updated EMPr and closure plan will be approved, taking into account processes for such amendments prescribed in terms of these Regulations;

- (h) a requirement that the environmental authorisation, EMPr, any independent assessments of financial provision for rehabilitation and environmental liability, closure plans, where applicable, audit reports including the environmental audit report contemplated by regulation 34, and all compliance monitoring reports be made available for inspection and copying—
- (i) at the site of the authorised activity;
  - (ii) to anyone on request; and
  - (iii) where the holder of the environmental authorisation has a website, on such publicly accessible website; and
- (i) any relevant conditions which the competent authority deems appropriate.

## CHAPTER 5

### AMENDMENT, SUSPENSION, WITHDRAWAL AND AUDITING OF COMPLIANCE WITH ENVIRONMENTAL AUTHORISATION AND ENVIRONMENTAL MANAGEMENT PROGRAMME

#### General

27. (1) The competent authority that issued an environmental authorisation has jurisdiction in all matters pertaining to the amendment of that environmental authorisation as long as the environmental authorisation is still valid, provided that the competent authority that issued such environmental authorisation still has jurisdiction in terms of the Act.

(2) Where the competent authority decides to amend an environmental authorisation, the competent authority must—

- (a) issue an amendment to the environmental authorisation either by way of a new environmental authorisation or new environmental authorisations or an addendum to the relevant environmental authorisation; or
- (b) replace an existing valid environmental authorisation with an environmental authorisation contemplated in this regulation, indicating the extent of replacement in the environmental authorisation, if the existing environmental authorisation is directly related to the amendment required.

(3) Where an environmental authorisation granted in terms of these Regulations does not include operational aspects and the activity has been commenced with, the period for which such environmental authorisation is granted may only be extended for a maximum further period of five years.

(4) An environmental authorisation may be amended or replaced without following a procedural requirement contained in these Regulations if the purpose is to correct an error and the correction does not change the rights and duties of any person materially.

#### **Application for amendment**

**28.** (1) The holder of an environmental authorisation may, at least three months prior to the expiry of the validity period of an environmental authorisation, apply to the relevant competent authority for the amendment of the environmental authorisation in terms of Part 1 of this Chapter.

(2) Failure to lodge an application for amendment of an environmental authorisation at least three months prior to expiry may result in the competent authority not being able to process the application for amendment in time and in the lapsing of the environmental authorisation.

(3) An application in terms of subregulation (1) must be in writing and accompanied by a motivation for such amendment.

*Part 1: Amendments where no change in scope or a change of ownership occur*

#### **Amendments to be applied for in terms of Part 1**

**29.** An environmental authorisation may be amended by following the process prescribed in this Part if the amendment—

- (a) will not change the scope of a valid environmental authorisation nor increase the level or nature of the impact, which impact was initially assessed and considered when application was made for an environmental authorisation; or
- (b) relates to the change of ownership or transfer of rights and obligations.



**Process and consideration of application for amendment and decision**

30. (1) Upon receipt of an application made in terms of regulation 29 the competent authority—

- (a) may request the holder to furnish additional information and such request must accompany the acknowledgement of receipt of the application; and
- (b) must refuse the application for amendment if the amendment being applied does not fall within the ambit of regulation 29.

(2) The competent authority must within 30 days of acknowledging receipt of the application or of receipt of the additional information contemplated in subregulation (1)(a) decide the application.

*Part 2: Amendments where a change in scope occurs***Amendments to be applied for in terms of Part 2**

31. An environmental authorisation may be amended by following the process prescribed in this Part if the amendment will result in a change to the scope of a valid environmental authorisation where such change will result in an increased level or nature of impact where such level or nature of impact was not—

- (a) assessed and included in the initial application for environmental authorisation; or
- (b) taken into consideration in the initial environmental authorisation;

and the change does not, on its own, constitute a listed or specified activity.

**Process and consideration of application for amendment**

32. (1) The holder must—

- (a) within 90 days of receipt by the competent authority of the application made in terms of regulation 31, submit to the competent authority 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—

- (i) 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
  - (ii) reflects the incorporation of comments received, including any comments of the competent authority; or
- (b) submit to the competent authority a notification in writing that the report will be submitted within 140 days of receipt of the application by the competent authority, as significant changes have been made or significant new information has been added to the report, which changes or information was not contained in the report consulted on during the initial public participation process contemplated in subregulation (1)(a) and that the revised report will be subjected to another public participation process of at least 30 days.

(2) In the event where subregulation (1)(b) applies, the report, which reflects the incorporation of comments received, including any comments of the competent authority, must be submitted to the competent authority within 140 days of receipt of the application by the competent authority.

#### **Decision on amendment application**

**33.** (1) The competent authority must within 107 days of receipt of the report contemplated in regulation 32, in writing, decide the application.

(2) On having reached a decision, the competent authority must comply with regulation 4(1), after which the holder applicant must comply with regulation 4(2).

*Part 3: Auditing and amendment of environmental authorisation, environmental management programme and closure plan*

**Auditing of compliance with environmental authorisation, environmental management programme and closure plan**

- 34.** (1) The holder of an environmental authorisation must, for the period during which the environmental authorisation and EMPr, and where applicable the closure plan, remain valid—
- (a) ensure that the compliance with the conditions of the environmental authorisation and the EMPr, and where applicable the closure plan, is audited; and
  - (b) submit an environmental audit report to the relevant competent authority.
- (2) The environmental audit report contemplated in subregulation (1) must—
- (a) be prepared by an independent person with the relevant environmental auditing expertise;
  - (b) provide verifiable findings, in a structured and systematic manner, on—
    - (i) the level of performance against and compliance of an organization or project with the provisions of the requisite environmental authorisation or EMPr and, where applicable, the closure plan; and
    - (ii) the ability of the measures contained in the EMPr, and where applicable the closure plan, to sufficiently provide for the avoidance, management and mitigation of environmental impacts associated with the undertaking of the activity;
  - (c) contain the information set out in Appendix 7; and
  - (d) be conducted and submitted to the competent authority at intervals as indicated in the environmental authorisation.
- (3) The environmental audit report contemplated in subregulation (1) must determine—
- (a) the ability of the EMPr, and where applicable the closure plan, to sufficiently provide for the avoidance, management and mitigation of environmental impacts associated with the undertaking of the activity on an ongoing basis and

to sufficiently provide for the , avoidance, management and mitigation of environmental impacts associated with the closure of the facility; and

(b) the level of compliance with the provisions of environmental authorisation, EMPr and where applicable the closure plan.

(4) Where the findings of the environmental audit report contemplated in subregulation (1) indicate—

(a) insufficient mitigation of environmental impacts associated with the undertaking of the activity; or

(b) insufficient levels of compliance with the environmental authorisation or EMPr and, where applicable the closure plan;

the holder must, when submitting the environmental audit report to the competent authority in terms of subregulation (1), submit recommendations to amend the EMPr or closure plan in order to rectify the shortcomings identified in the environmental audit report.

(5) When submitting recommendation in terms of subregulation (4), such recommendations must have been subjected to a public participation process, which process has been agreed to by the competent authority and was appropriate to bring the proposed amendment of the EMPr and, where applicable the closure plan, 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, for approval by the competent authority.

(6) Within 7 days of the date of submission of an environmental audit report to the competent authority, the holder of an environmental authorisation must notify all potential and registered interested and affected parties of the submission of that report, and make such report immediately available—

(a) to anyone on request; and

(b) on a publicly accessible website, where the holder has such a website.

(7) An environmental audit report must contain all information set out in Appendix 7 to these Regulations.

#### **Amendment of environmental management programme or closure plan as a result of an audit**

35. (1) The competent authority must consider the environmental audit report and amended EMPr and, where applicable the amended closure plan, contemplated in regulation 34 and approve such amended EMPr, and where applicable the amended closure plan, if it is satisfied that it sufficiently provides for avoidance, management and mitigation of environmental impacts associated with the undertaking of the activity, or where applicable the closure of the facility, and that it has been subjected to an appropriate public participation process.

(2) Prior to approving an amended EMPr or closure plan contemplated in subregulation (1), the competent authority may request such amendments to the EMPr or closure plan as it deems appropriate to ensure that the EMPr sufficiently provides for avoidance, management and mitigation of environmental impacts associated with the undertaking of the activity or to ensure that the closure plan sufficiently provides for avoidance, management and mitigation of environmental impacts associated with the closure of the facility.

*Part 4: Other amendments of environmental management programme or closure plan*

**Other amendments of environmental management programme or closure plan**

36. (1) Where an amendment is required to the impact management actions of an EMPr, such amendments may immediately be effected by the holder and reflected in the next environmental audit report submitted as contemplated in the environmental authorisation and regulation 34.

(2) Where an amendment to the impact management outcomes or objectives of an EMPr or an amendment of the closure objectives of a closure plan is required before an audit is required in terms of the environmental authorisation, an EMPr or closure plan may be amended on application by the holder of the environmental authorisation.

**Amendment of environmental management programme or closure plan on application by holder of environmental authorisation**

37. (1) Where the holder of an environmental authorisation identifies amendments to the impact management outcomes or objectives of the EMPr or amendments to the closure objectives of the closure plan before an audit is required in terms of the environmental authorisation, such holder must notify the competent authority of its intention to amend the EMPr or closure plan at least 60 days



prior to submitting such amendments to the EMPr or closure plan to the competent authority for approval.

(2) The holder of the environmental authorisation must invite comments on the proposed amendments to the impact management outcomes or objectives of the EMPr or amendments to the closure objectives of the closure plan from potentially interested and affected parties, including the competent authority, by using any of the methods provided for in the Act for a period of at least 30 days.

(3) Reasonable alternative methods, as agreed to by the competent authority, to invite comments as contemplated in subregulation (2), may be used in those instances where a person desires but is unable to participate in the process due to—

- (a) illiteracy;
- (b) disability; or
- (c) any other disadvantage.

(4) The invitation to comment as contemplated in subregulation (2) must include an indication that any comments to the proposed amendments must be submitted to the holder of the environmental authorisation within 30 days of such invitation to comment.

(5) If no comments are received, the holder of the environmental authorisation may amend the EMPr or closure plan in accordance with its intention contemplated in subregulation (1) and submit the amended EMPr or closure plan to the competent authority for approval within 60 days of inviting comments.

(6) Prior to approving an amended EMPr or closure plan contemplated in subregulation (5), the competent authority may request such amendments to the EMPr or closure plan as it deems appropriate to ensure that the EMPr sufficiently provides for avoidance, management and mitigation of environmental impacts associated with the undertaking of the activity or to ensure that the closure plan sufficiently provides for avoidance, management and mitigation of environmental impacts associated with the closure of the facility.

(7) If comments are submitted to the holder of the environmental authorisation, such holder must submit such comments to the competent authority, including responses to such comments, together with the proposed amended EMPr or closure plan.

(8) The competent authority must, within 30 days of receipt of the information contemplated in subregulation (7), consider such information and issue a decision to approve the amended EMPr or closure plan or not.

(9) After the competent authority has reached a decision in terms of subregulation (5) or (8), the competent authority must, within five days—

- (a) provide the holder of the environmental authorisation with its decision, including the amended EMPr or closure plan if the decision was to approve the amended EMPr or closure plan, as well as reasons for the decision;
- (b) draw the attention of the holder of the environmental authorisation to the fact that an appeal may be lodged against the decision in terms of the National Appeals Regulations, if such appeal is available in the circumstances of the decision; and
- (c) instruct the holder of the environmental authorisation to, within 14 days of the date of the decision, inform the parties who submitted comments of the decision, to the fact that an appeal may be lodged against the decision in terms of the National Appeals Regulations, if such appeal is available in the circumstances of the decision.

#### *Part 5: Suspension and withdrawal of environmental authorisation*

#### **Suspension and withdrawal of environmental authorisation**

38. (1) If the competent authority has reason to believe that the authorisation was obtained through fraud, non-disclosure of material information or misrepresentation of a material fact, the competent authority may, in writing, suspend or partially suspend, with immediate effect, the environmental authorisation and direct the holder of such environmental authorisation forthwith to cease any activities that have been commenced or to refrain from commencing any activities, pending a decision to withdraw the environmental authorisation.

(2) The holder of the environmental authorisation may, within ten days of the suspension issued in terms of subregulation (1), provide the competent authority with representations as to why the environmental authorisation should not be withdrawn.

(3) Subject to subregulation (4), within 14 days of receipt of representations, alternatively within 14 days of the expiry of the time period in which to submit representations, the competent

authority must consider the representations, if any, and must inform the applicant in writing of its decision to—

- (a) lift the suspension;
- (b) withdraw, or partially withdraw, the environmental authorisation.

(4) In the event that the competent authority requires further information in order to take a decision referred to in subregulation (3) it shall—

- (a) within the 14 day time period set out in regulation (3), and in writing, request the holder to provide such further information; and
- (b) consider this additional information prior to taking a decision in terms of (3)(a) or (b).

(5) Where further information is requested, the competent authority shall have a further 14 day period from the date of receipt of this information, in which to make its decision in terms of subregulation (3)(a) or (b).

(6) In the event that the competent authority decides to withdraw, or partially withdraw, the environmental authorisation in terms of (3)(b), and the activity or activities have commenced, the competent authority may direct the holder to rehabilitate the effects of the activity on the environment.

(7) The provisions of this Part apply equally to any exemptions issued in terms of the ECA regulations or the previous NEMA Regulations as defined in Chapter 8 of these Regulations.

## CHAPTER 6

### PUBLIC PARTICIPATION

#### **Activity on land owned by person other than proponent**

39. (1) If the proponent is not the owner or person in control of the land on which the activity is to be undertaken, the proponent must, before applying for an environmental authorisation in respect of such activity, obtain the written consent of the landowner or person in control of the land to undertake such activity on that land.

- (2) Subregulation (1) does not apply in respect of—
- (a) linear activities;
  - (b) activities directly related to prospecting or exploration of a mineral and petroleum resource or extraction and primary processing of a mineral resource; and
  - (c) strategic integrated projects as contemplated in the Infrastructure Development Act, 2014.

#### **Purpose of public participation**

40. (1) The public participation process to which the—
- (a) basic assessment report and EMPr, and where applicable the closure plan, submitted in terms of regulation 19; and
  - (b) scoping report submitted in terms of regulation 21 and the environmental impact assessment report and EMPr submitted in terms of regulation 23;

was subjected to must give all potential or registered interested and affected parties, including the competent authority, a period of at least 30 days to submit comments on each of the basic assessment report, EMPr, scoping report and environmental impact assessment report, and where applicable the closure plan, as well as the report contemplated in regulation 32, if such reports or plans are submitted at different times.

(2) The public participation process contemplated in this regulation must provide access to all information that reasonably has or may have the potential to influence any decision with regard to an application unless access to that information is protected by law and must include consultation with—

- (a) the competent authority;
- (b) every State department that administers a law relating to a matter affecting the environment relevant to an application for an environmental authorisation;

- (c) all organs of state which have jurisdiction in respect of the activity to which the application relates; and
- (d) all potential, or, where relevant, registered interested and affected parties.

(3) Potential or registered interested and affected parties, including the competent authority, may be provided with an opportunity to comment on reports and plans contemplated in subregulation (1) prior to submission of an application but must be provided an opportunity to comment on such reports once an application has been submitted to the competent authority.

### **Public participation process**

41. (1) This regulation only applies in instances where adherence to the provisions of this regulation is specifically required.

(2) The person conducting a public participation process must take into account any relevant guidelines applicable to public participation as contemplated in section 24J of the Act and must give notice to all potential interested and affected parties of an application or proposed application which is subjected to public participation by—

- (a) fixing a notice board at a place conspicuous to and accessible by the public at the boundary, on the fence or along the corridor of—
  - (i) the site where the activity to which the application or proposed application relates is or is to be undertaken; and
  - (ii) any alternative site;
- (b) giving written notice, in any of the manners provided for in section 47D of the Act, to—
  - (i) the occupiers of the site and, if the proponent or applicant is not the owner or person in control of the site on which the activity is to be undertaken, the owner or person in control of the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;



- (ii) owners, persons in control of, 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;
  - (iii) the municipal councillor of the ward in which the site or alternative site is situated and any organisation of ratepayers that represent the community in the area;
  - (iv) the municipality which has jurisdiction in the area;
  - (v) any organ of state having jurisdiction in respect of any aspect of the activity; and
  - (vi) any other party as required by the competent authority;
- (c) placing an advertisement in—
- (i) one local newspaper; or
  - (ii) any official *Gazette* that is published specifically for the purpose of providing public notice of applications or other submissions made in terms of these Regulations;
- (d) placing an advertisement in at least one provincial newspaper or national newspaper, if the activity has or may have an impact that extends beyond the boundaries of the metropolitan or district municipality in which it is or will be undertaken: Provided that this paragraph need not be complied with if an advertisement has been placed in an official *Gazette* referred to in paragraph (c)(ii); and
- (e) using reasonable alternative methods, as agreed to by the competent authority, in those instances where a person is desirous of but unable to participate in the process due to—
- (i) illiteracy;
  - (ii) disability; or
  - (iii) any other disadvantage.

- (3) A notice, notice board or advertisement referred to in subregulation (2) must—
- (a) give details of the application or proposed application which is subjected to public participation; and
  - (b) state—
    - (i) whether basic assessment or S&EIR procedures are being applied to the application;
    - (ii) the nature and location of the activity to which the application relates;
    - (iii) where further information on the application or proposed application can be obtained; and
    - (iv) the manner in which and the person to whom representations in respect of the application or proposed application may be made.

- (4) A notice board referred to in subregulation (2) must—
- (a) be of a size at least 60cm by 42cm; and
  - (b) display the required information in lettering and in a format as may be determined by the competent authority.

(5) Where public participation is conducted in terms of this regulation for an application or proposed application, subregulation (2)(a), (b), (c) and (d) need not be complied with again during the additional public participation process contemplated in regulations 19(1)(b) or 23(1)(b) or the public participation process contemplated in regulation 21(2)(d), on condition that—

- (a) such process has been preceded by a public participation process which included compliance with subregulation (2)(a), (b), (c) and (d); and
- (b) written notice is given to registered interested and affected parties regarding where the—
  - (i) revised basic assessment report or, EMPr or closure plan, as contemplated in regulation 19(1)(b);
  - (ii) revised environmental impact report or EMPr as contemplated in regulation 23(1)(b); or

- (iii) environmental impact report and EMPr as contemplated in regulation 21(2)(d);

may be obtained, the manner in which and the person to whom representations on these reports or plans may be made and the date on which such representations are due.

(6) When complying with this regulation, the person conducting the public participation process must ensure that—

- (a) information containing all relevant facts in respect of the application or proposed application is made available to potential interested and affected parties; and
- (b) participation by potential or registered interested and affected parties is facilitated in such a manner that all potential or registered interested and affected parties are provided with a reasonable opportunity to comment on the application or proposed application.

(7) Where an environmental authorisation is required in terms of these Regulations and an authorisation, permit or licence is required in terms of a specific environmental management Act, the public participation process contemplated in this Chapter may be combined with any public participation processes prescribed in terms of a specific environmental management Act, on condition that all relevant authorities agree to such combination of processes.

#### **Register of interested and affected parties**

42. A proponent or applicant must ensure the opening and maintenance of a register of interested and affected parties and submit such a register to the competent authority, which register must contain the names, contact details and addresses of—

- (a) all persons who, as a consequence of the public participation process conducted in respect of that application, have submitted written comments or attended meetings with the proponent, applicant or EAP;
- (b) all persons who have requested the proponent or applicant, in writing, for their names to be placed on the register; and
- (c) all organs of state which have jurisdiction in respect of the activity to which the application relates.

**Registered interested and affected parties entitled to comment on reports and plans**

43. (1) A registered interested and affected party is entitled to comment, in writing, on all reports or plans submitted to such party during the public participation process contemplated in these Regulations and to bring to the attention of the proponent or applicant any issues which that party believes may be of significance to the consideration of the application, 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.

(2) In order to give effect to section 24O of the Act, any State department that administers a law relating to a matter affecting the environment must be requested, subject to regulation 7(2), to comment within 30 days.

**Comments of interested and affected parties to be recorded in reports and plans**

44. (1) The applicant must ensure that the comments of interested and affected parties are recorded in reports and plans and that such written comments, including responses to such comments and records of meetings, are attached to the reports and plans that are submitted to the competent authority in terms of these Regulations.

(2) Where a person desires but is unable to access written comments as contemplated in subregulation (1) due to—

- (i) a lack of skills to read or write;
- (ii) disability; or
- (iii) any other disadvantage;

reasonable alternative methods of recording comments must be provided for.

**CHAPTER 7****GENERAL MATTERS****Failure to comply with requirements for consideration of applications**

45. An application in terms of these Regulations lapses, and a competent authority will deem the application as having lapsed, if the applicant fails to meet any of the time-frames prescribed in terms of these Regulations, unless extension has been granted in terms of regulation 3(7).

#### **Resubmission of similar applications**

46. No applicant may submit an application which is substantially similar to a previous application which has been refused unless the appeal on such refusal has been finalised or the time period for the submission of such appeal has lapsed.

#### **Assistance to people with special needs**

47. The competent authority processing an application in terms of these Regulations must give reasonable assistance to people with

- (a) illiteracy;
- (b) a disability; or
- (c) any other disadvantage

who cannot, but desire to, comply with these Regulations.

#### **Offences**

48. (1) A person is guilty of an offence if that person—
- (a) provides incorrect or misleading information in any form, including any document submitted in terms of these Regulations to a competent authority or omits information that may have an influence on the outcome of a decision of a competent authority;
  - (b) fails to comply with regulation 10(c);
  - (c) fails to comply with regulation 13(1)(f);
  - (d) fails to comply with regulation 34;
  - (e) fails to comply with regulation 37; or
  - (f) commences with an activity where the environmental authorisation was suspended or withdrawn in terms of regulation 38.
- (2) A person convicted of an offence in terms of subregulation (1) (a), (b), (c), (d) or (e) is liable to the penalties as contemplated in section 49B(2) of the Act.
- (3) A person convicted of an offence in terms of subregulation (1) (f) is liable to the penalties as contemplated in section 49B(1) of the Act.



**CHAPTER 8****TRANSITIONAL ARRANGEMENTS AND COMMENCEMENT****Definitions**

49. In this Chapter –

**“ECA”** means the Environment Conservation Act, 1989 (Act No. 73 of 1989);

**“NEMA”** means the National Environmental Management Act, 1998 (Act No. 107 of 1998);

**“ECA notices”** as contemplated in these transitional arrangements, means the notices in terms of ECA (Government Notice R. 1182, as amended by Government Notice R. 1355 of 17 October 1997, Government Notice R. 448 of 27 March 1998 and Government Notice R. 670 of 10 May 2002);

**“ECA regulations”** as contemplated in these transitional arrangements, means the regulations published in terms of sections 26 and 28 of the ECA, by Government Notice R. 1183 of 5 September 1997;

**“previous MPRDA regulations”** as contemplated in these transitional arrangements, means the regulations published in terms of section 107 of the Mineral and Petroleum Resources Development Act, 2002, by Government Notice R527 in *Government Gazette* 26275 of 23 April 2004 and as amended from time to time;

**“previous NEMA notices”** as contemplated in these transitional arrangements means the previous notices published in terms of section 24(2) of NEMA (Government Notices R. 386 and R. 387 in the *Government Gazette* of 21 April 2006, and as amended from time to time, or Government Notice No. R. 544, 545 and 546 in the *Government Gazette* of 18 June 2010, as amended from time to time);

**“previous NEMA regulations”** as contemplated in these transitional arrangements means either the previous Environmental Impact Assessment Regulations published in terms of NEMA (Government Notice No. R. 385 in the *Government Gazette* of 21 April 2006 or Government Notice No. R. 543 in the *Government Gazette* of 18 June 2010);

**Continuation of actions undertaken and authorisations issued under previous ECA regulations**

50. (1) Any actions undertaken in terms of the ECA regulations and which can be undertaken in terms of a provision of these Regulations must be regarded as having been undertaken in terms of the provision of these Regulations.

(2) Any authorisation issued or exemption from obtaining an environmental authorisation granted in terms of the ECA regulations, must be regarded to be an environmental authorisation issued in terms of these Regulations.

**Pending applications and appeals (ECA)**

51. (1) An application submitted in terms of the ECA regulations and which is pending when these Regulations take effect, including pending applications for activities directly related to—

(a) prospecting or exploration of a mineral or petroleum resource; or

(b) extraction and primary processing of a mineral or petroleum resource;

must despite the repeal of those Regulations be dispensed with in terms of those Regulations as if those Regulations were not repealed.

(2) If a situation arises where an activity or activities listed under the ECA Notices no longer requires environmental authorisation in terms of the current activities and competent authorities identified in terms of sections 24(2) and 24D of the Act or in terms of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008), and where a decision on an application submitted under the ECA regulations is still pending, the competent authority will consider such application to be withdrawn.

(3) Where an application submitted in terms of the ECA regulations is pending in relation to an activity of which a component of the same activity was not listed under the ECA Notices, but is now identified in terms of section 24(2) of the Act, the competent authority must dispense of such application in terms of those ECA regulations and may authorise the activity identified in terms of section 24(2) as if it was applied for, on condition that all impacts of the newly listed activity and requirements of these Regulations have also been considered and adequately assessed.

**Continuation of actions undertaken and authorisations issued under previous NEMA regulations**

52. (1) Any actions undertaken in terms of the previous NEMA regulations and which can be undertaken in terms of a provision of these Regulations must be regarded as having been undertaken in terms of the provision of these Regulations.

(2) Any authorisation issued in terms of the previous NEMA Regulations must be regarded to be an environmental authorisation issued in terms of these Regulations.

**Pending applications and appeals (NEMA)**

53. (1) An application submitted in terms of the previous NEMA regulations and which is pending when these Regulations take effect, including pending applications for auxiliary activities directly related to—

- (a) prospecting or exploration of a mineral or petroleum resource; or
- (b) extraction and primary processing of a mineral or petroleum resource,

must despite the repeal of those Regulations be dispensed with in terms of those previous NEMA regulations as if those previous NEMA regulations were not repealed.

(2) If a situation arises where an activity or activities, identified under the previous NEMA Notices, no longer requires environmental authorisation in terms of the current activities and competent authorities identified in terms of section 24(2) and 24D of the National Environmental Management Act, 1998 (Act No. 107 of 1998) or in terms of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008), and where a decision on an application submitted under the previous NEMA regulations is still pending, the competent authority will consider such application to be withdrawn.

(3) Where an application submitted in terms of the previous NEMA regulations, is pending in relation to an activity of which a component of the same activity was not identified under the previous NEMA notices, but is now identified in terms of section 24(2) of the Act, the competent authority must dispense of such application in terms of the previous NEMA regulations and may authorise the activity identified in terms of section 24(2) as if it was applied for, on condition that all impacts of the newly identified activity and requirements of these Regulations have also been considered and adequately assessed.

(4) An appeal lodged in terms of the previous NEMA regulations, and which is pending when these Regulations take effect must despite the repeal of those previous NEMA regulations be dispensed with in terms thereof as if those previous NEMA regulations were not repealed.

**Pending applications (MPRDA)**

54. (1) An application submitted in terms of the previous MPRDA regulations and which is pending when these Regulations take effect must despite the repeal of those regulations be dispensed with in terms of those previous MPRDA regulations as if those previous MPRDA regulations were not repealed.

(2) An application submitted after the commencement of these Regulations for an amendment of an Environmental Management Programme, issued in terms of the Mineral and Petroleum Resources Development Act, 2002, must be dealt with in terms of Part 1 or Part 2 of Chapter 5 of these Regulations.

(3) "Application" for the purpose of subregulation (1) means an application for a permit, right, approval of an Environmental Management Programme or amendment to such permit, right or Environmental Management Programmes.

**Continuation of regulations regulating authorisations for activities in certain coastal areas**

55. These Regulations do not affect the continued application of the regulations published in terms of sections 26 and 28 of the ECA, by Government Notice R. 1528 of 27 November 1998.

**Repeal of Environmental Impact Regulations, 2010**

56. With the exception of Chapter 5 and Chapter 7 of the Environmental Impact Assessment Regulations, 2010, those Regulations as published in Government Notice No. R. 543, in the *Gazette* No. 33306 of 18 June 2010, is hereby repealed.

**Short title and commencement**

57. These Regulations are called the Environmental Impact Assessment Regulations, 2014 and take effect on 8 December 2014.

## Appendix 1

### Basic assessment process

1. The environmental outcomes, impacts and residual risks of the proposed activity must be set out in the basic assessment report.

### Objective of the basic assessment process

2. The objective of the basic assessment process is to, through a consultative process—
  - (a) determine the policy and legislative context within which the proposed activity is located and how the activity complies with and responds to the policy and legislative context;
  - (b) identify the alternatives considered, including the activity, location, and technology alternatives;
  - (c) describe the need and desirability of the proposed alternatives,
  - (d) through the undertaking of an impact and risk assessment process inclusive of cumulative impacts which focused on determining the geographical, physical, biological, social, economic, heritage , and cultural sensitivity of the sites and locations within sites and the risk of impact of the proposed activity and technology alternatives on the these aspects to determine—
    - (i) the nature, significance, consequence, extent, duration, and probability of the impacts occurring to;  
and
    - (ii) the degree to which these impacts—
      - (aa) can be reversed;
      - (bb) may cause irreplaceable loss of resources; and
      - (cc) can be avoided, managed or mitigated;
  - (e) through a ranking of the site sensitivities and possible impacts the activity and technology alternatives will impose on the sites and location identified through the life of the activity to—
    - (i) identify and motivate a preferred site, activity and technology alternative;



- (ii) identify suitable measures to avoid, manage or mitigate identified impacts; and
- (iii) identify residual risks that need to be managed and monitored.

### Scope of assessment and content of basic assessment reports

3. (1) A basic assessment report must contain the information that is necessary for the competent authority to consider and come to a decision on the application, and must include—

(a) details of—

- (i) the EAP who prepared the report; and
- (ii) the expertise of the EAP, including a curriculum vitae;

(b) the location of the activity, including:

- (i) the 21 digit Surveyor General code of each cadastral land parcel;
- (ii) where available, the physical address and farm name;
- (iii) where the required information in items (i) and (ii) is not available, the coordinates of the boundary of the property or properties;

(c) a plan which locates the proposed activity or activities applied for as well as associated structures and infrastructure at an appropriate scale;

or, if it is—

- (i) a linear activity, a description and coordinates of the corridor in which the proposed activity or activities is to be undertaken; or
- (ii) on land where the property has not been defined, the coordinates within which the activity is to be undertaken;

(d) a description of the scope of the proposed activity, including—

- (i) all listed and specified activities triggered and being applied for; and
- (ii) a description of the activities to be undertaken including associated structures and infrastructure ;

- (e) a description of the policy and legislative context within which the development is proposed including—
  - (i) an identification of all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks, and instruments that are applicable to **this** activity and have been considered in the preparation of the report; and
  - (ii) how the proposed activity complies with and responds to the legislation and policy context, plans, guidelines, tools frameworks, and instruments;
- (f) a motivation for the need and desirability for the proposed development including the need and desirability of the activity in the context of the preferred location;
- (g) a motivation for the preferred site, activity and technology alternative;
- (h) a full description of the process followed to reach the proposed preferred alternative within the site, including:
  - (i) details of all the alternatives considered;
  - (ii) details of the public participation process undertaken in terms of regulation 41 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;
  - (iv) the environmental attributes associated with the alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects;
  - (v) the impacts and risks identified for each alternative, including the nature, significance, consequence, extent, duration and probability of the impacts, including the degree to which these impacts—
    - (aa) can be reversed;
    - (bb) may cause irreplaceable loss of resources; and
    - (cc) can be avoided, managed or mitigated;
  - (vi) the methodology used in determining and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks associated with the alternatives;

- (vii) positive and negative impacts that the proposed activity and alternatives will have on the environment and on the community that may be affected focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects;
  - (viii) the possible mitigation measures that could be applied and level of residual risk;
  - (ix) the outcome of the site selection matrix;
  - (x) if no alternatives, including alternative locations for the activity were investigated, the motivation for not considering such; and
  - (xi) a concluding statement indicating the preferred alternatives, including preferred location of the activity;
- (i) a full description of the process undertaken to identify, assess and rank the impacts the activity will impose on the preferred location through the life of the activity, including—
- (i) a description of all environmental issues and risks that were identified during the environmental impact assessment process; and
  - (ii) an assessment of the significance of each issue and risk and an indication of the extent to which the issue and risk could be avoided or addressed by the adoption of mitigation measures;
- (j) an assessment of each identified potentially significant impact and risk, including—
- (i) cumulative impacts;
  - (ii) the nature, significance and consequences of the impact and risk;
  - (iii) the extent and duration of the impact and risk;
  - (iv) the probability of the impact and risk occurring;
  - (v) the degree to which the impact and risk can be reversed;
  - (vi) the degree to which the impact and risk may cause irreplaceable loss of resources; and
  - (vii) the degree to which the impact and risk can be avoided, managed or mitigated;
- (k) where applicable, a summary of the findings and impact management measures identified in any specialist report complying with Appendix 6 to these Regulations and an indication as to how these findings and recommendations have been included in the final report;
- (l) an environmental impact statement which contains—
- (i) a summary of the key findings of the environmental impact assessment;

- (ii) a map at an appropriate scale which superimposes the proposed activity and its associated structures and infrastructure on the environmental sensitivities of the preferred site indicating any areas that should be avoided, including buffers; and
  - (iii) a summary of the positive and negative impacts and risks of the proposed activity and identified alternatives;
- (m) based on the assessment, and where applicable, impact management measures from specialist reports, the recording of the proposed impact management objectives, and the impact management outcomes for the development for inclusion in the EMPr;
- (n) any aspects which were conditional to the findings of the assessment either by the EAP or specialist which are to be included as conditions of authorisation;
- (o) a description of any assumptions, uncertainties, and gaps in knowledge which relate to the assessment and mitigation measures proposed;
- (p) a reasoned opinion as to whether the proposed activity should or should not be authorised, and if the opinion is that it should be authorised, any conditions that should be made in respect of that authorisation;
- (q) where the proposed activity does not include operational aspects, the period for which the environmental authorisation is required, the date on which the activity will be concluded, and the post construction monitoring requirements finalised;
- (r) an undertaking under oath or affirmation by the 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 responses by the EAP to comments or inputs made by interested and affected parties; and
- (s) where applicable, details of any financial provisions for the rehabilitation, closure, and ongoing post decommissioning management of negative environmental impacts;
- (t) any specific information that may be required by the competent authority; and
- (u) any other matters required in terms of section 24(4)(a) and (b) of the Act.

## Appendix 2

### Objective of the Scoping Process

1. The objective of the scoping process is to, through a consultative process—

- (a) identify the relevant policies and legislation relevant to the activity;
- (b) motivate the need and desirability of the proposed activity, including the need and desirability of the activity in the context of the preferred location;
- (c) identify and confirm the preferred activity and technology alternative through an impact and risk assessment and ranking process;
- (d) identify and confirm the preferred site, through a detailed site selection process, which includes an impact and risk assessment process inclusive of cumulative impacts and a ranking process of all the identified alternatives focusing on the geographical, physical, biological, social, economic, and cultural aspects of the environment;
- (e) identify the key issues to be addressed in the assessment phase;
- (f) agree on the level of assessment to be undertaken, including the methodology to be applied, the expertise required as well as the extent of further consultation to be undertaken to determine the impacts and risks the activity will impose on the preferred site through the life of the activity, including the nature, significance, consequence, extent, duration and probability of the impacts to inform the location of the development footprint within the preferred site; and
- (g) identify suitable measures to avoid, manage or mitigate identified impacts and to determine the extent of the residual risks that need to be managed and monitored.

### Content of the scoping report

2. A scoping report must contain the information that is necessary for a proper understanding of the process, informing all preferred alternatives, including location alternatives, the scope of the assessment, and the consultation process to be undertaken through the environmental impact assessment process, and must include—

- (a) details of—
  - (i) the EAP who prepared the report; and
  - (ii) the expertise of the EAP, including a curriculum vitae;



- (b) the location of the activity, including—
  - (i) the 21 digit Surveyor General code of each cadastral land parcel;
  - (ii) where available, the physical address and farm name;
  - (iii) where the required information in items (i) and (ii) is not available, the coordinates of the boundary of the property or properties;
  
- (c) a plan which locates the proposed activity or activities applied for at an appropriate scale, or, if it is—
  - (i) a linear activity, a description and coordinates of the corridor in which the proposed activity or activities is to be undertaken; or
  - (ii) on land where the property has not been defined, the coordinates within which the activity is to be undertaken;
  
- (d) a description of the scope of the proposed activity, including—
  - (i) all listed and specified activities triggered;
  - (ii) a description of the activities to be undertaken, including associated structures and infrastructure;
  
- (e) a description of the policy and legislative context within which the development is proposed including an identification of all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks and instruments that are applicable to this activity and are to be considered in the assessment process;
  
- (f) a motivation for the need and desirability for the proposed development including the need and desirability of the activity in the context of the preferred location;
  
- (h) a full description of the process followed to reach the proposed preferred activity, site and location within the site, including—
  - (i) details of all the alternatives considered;
  - (ii) details of the public participation process undertaken in terms of regulation 41 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;

- (iv) the environmental attributes associated with the alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects;
  - (v) the impacts and risks identified for each alternative, including the nature, significance, consequence, extent, duration and probability of the impacts, including the degree to which these impacts—
    - (aa) can be reversed;
    - (bb) may cause irreplaceable loss of resources; and
    - (cc) can be avoided, managed or mitigated;
  - (vi) the methodology used in determining and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks associated with the alternatives;
  - (vii) positive and negative impacts that the proposed activity and alternatives will have on the environment and on the community that may be affected focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects;
  - (viii) the possible mitigation measures that could be applied and level of residual risk;
  - (ix) the outcome of the site selection matrix;
  - (x) if no alternatives, including alternative locations for the activity were investigated, the motivation for not considering such and
  - (xi) a concluding statement indicating the preferred alternatives, including preferred location of the activity;
- (i) a plan of study for undertaking the environmental impact assessment process to be undertaken, including—
- (i) a description of the alternatives to be considered and assessed within the preferred site, including the option of not proceeding with the activity;
  - (ii) a description of the aspects to be assessed as part of the environmental impact assessment process;
  - (iii) aspects to be assessed by specialists;
  - (iv) a description of the proposed method of assessing the environmental aspects, including a description of the proposed method of assessing the environmental aspects including aspects to be assessed by specialists;
  - (v) a description of the proposed method of assessing duration and significance;
  - (vi) an indication of the stages at which the competent authority will be consulted;

- (vii) particulars of the public participation process that will be conducted during the environmental impact assessment process; and
  - (viii) a description of the tasks that will be undertaken as part of the environmental impact assessment process;
  - (ix) identify suitable measures to avoid, reverse, mitigate or manage identified impacts and to determine the extent of the residual risks that need to be managed and monitored.
- (j) an undertaking under oath or affirmation by the EAP in relation to—
- (i) the correctness of the information provided in the report;
  - (ii) the inclusion of comments and inputs from stakeholders and interested and affected parties; and
  - (iii) any information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested or affected parties;
- (k) an undertaking under oath or affirmation by the EAP in relation to the level of agreement between the EAP and interested and affected parties on the plan of study for undertaking the environmental impact assessment;
- (l) where applicable, any specific information required by the competent authority; and
- (m) any other matter required in terms of section 24(4)(a) and (b) of the Act.

## Appendix 3

### Environmental impact assessment process

1. (1) The environmental impact assessment process must be undertaken in line with the approved plan of study for environmental impact assessment.
- (2) The environmental impacts, mitigation and closure outcomes as well as the residual risks of the proposed activity must be set out in the environmental impact assessment report.

### Objective of the environmental impact assessment process

2. The objective of the environmental impact assessment process is to, through a consultative process—
  - (a) determine the policy and legislative context within which the activity is located and document how the proposed activity complies with and responds to the policy and legislative context;
  - (b) describe the need and desirability of the proposed activity, including the need and desirability of the activity in the context of the preferred location;
  - (c) identify the location of the development footprint within the preferred site based on an impact and risk assessment process inclusive of cumulative impacts and a ranking process of all the identified development footprint alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects of the environment;
  - (d) determine the—
    - (i) nature, significance, consequence, extent, duration and probability of the impacts occurring to inform identified preferred alternatives; and
    - (ii) degree to which these impacts—
      - (aa) can be reversed;
      - (bb) may cause irreplaceable loss of resources, and

- (cc) can be avoided, managed or mitigated;
- (e) identify the most ideal location for the activity within the preferred site based on the lowest level of environmental sensitivity identified during the assessment;
- (f) identify, assess, and rank the impacts the activity will impose on the preferred location through the life of the activity;
- (g) identify suitable measures to avoid, manage or mitigate identified impacts; and
- (h) identify residual risks that need to be managed and monitored.

### **Scope of assessment and content of environmental impact assessment reports**

3. An environmental impact assessment report must contain the information that is necessary for the competent authority to consider and come to a decision on the application, and must include—

- (a) details of—
  - (i) the EAP who prepared the report; and
  - (ii) the expertise of the EAP, including a curriculum vitae;
- (b) the location of the activity, including:
  - (i) the 21 digit Surveyor General code of each cadastral land parcel;
  - (ii) where available, the physical address and farm name; and
  - (iii) where the required information in items (i) and (ii) is not available, the coordinates of the boundary of the property or properties;
- (c) a plan which locates the proposed activity or activities applied for as well as the associated structures and infrastructure at an appropriate scale, or, if it is—
  - (i) a linear activity, a description and coordinates of the corridor in which the proposed activity or activities is to be undertaken;
  - (ii) on land where the property has not been defined, the coordinates within which the activity is to be undertaken;
- (d) a description of the scope of the proposed activity, including—
  - (i) all listed and specified activities triggered and being applied for; and
  - (ii) a description of the associated structures and infrastructure related to the development;



- (e) a description of the policy and legislative context within which the development is located and an explanation of how the proposed development complies with and responds to the legislation and policy context;
- (f) a motivation for the need and desirability for the proposed development, including the need and desirability of the activity in the context of the preferred location;
- (g) a motivation for the preferred development footprint within the approved site;
- (h) a full description of the process followed to reach the proposed development footprint within the approved site, including:
  - (i) details of the development footprint alternatives considered;
  - (ii) details of the public participation process undertaken in terms of regulation 41 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;
  - (iv) the environmental attributes associated with the development footprint alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects;
  - (v) the impacts and risks identified including the nature, significance, consequence, extent, duration and probability of the impacts, including the degree to which these impacts—
    - (aa) can be reversed;
    - (bb) may cause irreplaceable loss of resources; and
    - (cc) can be avoided, managed or mitigated;
  - (vi) the methodology used in determining and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks;

- (vii) positive and negative impacts that the proposed activity and alternatives will have on the environment and on the community that may be affected focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects;
- (viii) the possible mitigation measures that could be applied and level of residual risk;
- (ix) if no alternative development locations for the activity were investigated, the motivation for not considering such; and
- (x) a concluding statement indicating the preferred alternative development location within the approved site;
- (i) a full description of the process undertaken to identify, assess and rank the impacts the activity and associated structures and infrastructure will impose on the preferred location through the life of the activity, including—
  - (i) a description of all environmental issues and risks that were identified during the environmental impact assessment process; and
  - (ii) an assessment of the significance of each issue and risk and an indication of the extent to which the issue and risk could be avoided or addressed by the adoption of mitigation measures;
- (j) an assessment of each identified potentially significant impact and risk, including—
  - (i) cumulative impacts;
  - (ii) the nature, significance and consequences of the impact and risk;
  - (iii) the extent and duration of the impact and risk;
  - (iv) the probability of the impact and risk occurring;
  - (v) the degree to which the impact and risk can be reversed;
  - (vi) the degree to which the impact and risk may cause irreplaceable loss of resources; and
  - (vii) the degree to which the impact and risk can be mitigated;
- (k) where applicable, a summary of the findings and recommendations of any specialist report complying with Appendix 6 to these Regulations and an indication as to how these findings and recommendations have been included in the final assessment report;
- (l) an environmental impact statement which contains—

- (i) a summary of the key findings of the environmental impact assessment;
  - (ii) a map at an appropriate scale which superimposes the proposed activity and its associated structures and infrastructure on the environmental sensitivities of the preferred site indicating any areas that should be avoided, including buffers; and
  - (iii) a summary of the positive and negative impacts and risks of the proposed activity and identified alternatives;
- (m) based on the assessment, and where applicable, recommendations from specialist reports, the recording of proposed impact management objectives, and the impact management outcomes for the development for inclusion in the EMPr as well as for inclusion as conditions of authorisation;
- (n) the final proposed alternatives which respond to the impact management measures, avoidance, and mitigation measures identified through the assessment;
- (o) any aspects which were conditional to the findings of the assessment either by the EAP or specialist which are to be included as conditions of authorisation
- (p) a description of any assumptions, uncertainties and gaps in knowledge which relate to the assessment and mitigation measures proposed;
- (q) a reasoned opinion as to whether the proposed activity should or should not be authorised, and if the opinion is that it should be authorised, any conditions that should be made in respect of that authorisation;
- (r) where the proposed activity does not include operational aspects, the period for which the environmental authorisation is required and the date on which the activity will be concluded and the post construction monitoring requirements finalised;
- (s) an undertaking under oath or affirmation by the 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 responses by the EAP to comments or inputs made by interested or affected parties;

- (t) where applicable, details of any financial provisions for the rehabilitation, closure, and ongoing post decommissioning management of negative environmental impacts;
- (u) an indication of any deviation from the approved scoping report, including the plan of study, including—
  - (i) any deviation from the methodology used in determining the significance of potential environmental impacts and risks; and
  - (ii) a motivation for the deviation;
- (v) any specific information that may be required by the competent authority; and
- (w) any other matters required in terms of section 24(4)(a) and (b) of the Act.

## Appendix 4

### Content of environmental management programme (EMPr)

1. (1) An EMPr must comply with section 24N of the Act and include—
  - (a) details of—
    - (i) the EAP who prepared the EMPr; and
    - (ii) the expertise of that EAP to prepare an EMPr, including a curriculum vitae;
  - (b) a detailed description of the aspects of the activity that are covered by the EMPr as identified by the project description;
  - (c) a map at an appropriate scale which superimposes the proposed activity, its associated structures, and infrastructure on the environmental sensitivities of the preferred site, indicating any areas that should be avoided, including buffers;
  - (d) a description of the impact management objectives, including management statements, identifying the impacts and risks that need to be avoided, managed and mitigated as identified through the environmental impact assessment process for all phases of the development including—
    - (i) planning and design;
    - (ii) pre-construction activities;
    - (iii) construction activities;
    - (iv) rehabilitation of the environment after construction and where applicable post closure; and
    - (v) where relevant, operation activities;
  - (e) a description and identification of impact management outcomes required for the aspects contemplated in paragraph (d);
  - (f) a description of proposed impact management actions, identifying the manner in which the impact management objectives and outcomes contemplated in paragraphs (d) and (e) will be achieved, and must, where applicable, include actions to —



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

## Appendix 5

### Content of closure plan

1. (1) A closure plan must include—
  - (a) details of –
    - (i) the EAP who prepared the closure plan; and
    - (ii) the expertise of that EAP;
  - (b) closure objectives;
  - (c) proposed mechanisms for monitoring compliance with and performance assessment against the closure plan and reporting thereon;
  - (d) measures to rehabilitate the environment affected by the undertaking of any listed activity or specified activity and associated closure to its natural or predetermined state or to a land use which conforms to the generally accepted principle of sustainable development, including a handover report, where applicable;
  - (e) information on any proposed avoidance, management and mitigation measures that will be taken to address the environmental impacts resulting from the undertaking of the closure activity;
  - (f) a description of the manner in which it intends to—
    - (i) modify, remedy, control or stop any action, activity or process which causes pollution or environmental degradation during closure;
    - (ii) remedy the cause of pollution or degradation and migration of pollutants during closure;
    - (iii) comply with any prescribed environmental management standards or practices; and
    - (iv) comply with any applicable provisions of the Act regarding closure;

- (g) time periods within which the measures contemplated in the closure plan must be implemented;
- (h) the process for managing any environmental damage, pollution, pumping and treatment of extraneous water or ecological degradation as a result of closure; and
- (i) details of all public participation processes conducted in terms of regulation 41 of the Regulations, including—
  - (i) copies of any representations and comments received from registered interested and affected parties;
  - (ii) a summary of comments received from, and a summary of issues raised by registered interested and affected parties, the date of receipt of these comments and the response of the EAP to those comments;
  - (iii) the minutes of any meetings held by the EAP with interested and affected parties and other role players which record the views of the participants;
  - (iv) where applicable, an indication of the amendments made to the plan as a result of public participation processes conducted in terms of regulation 41 of these Regulations: and
- (j) where applicable, details of any financial provisions for the rehabilitation, closure and on-going post decommissioning management of negative environmental impacts

## Appendix 6

### Specialist reports

1. (1) A specialist report prepared in terms of these Regulations must contain—
  - (a) details of—
    - (i) the specialist who prepared the report; and
    - (ii) the expertise of that specialist to compile a specialist report including a curriculum vitae;
  - (b) a declaration that the specialist is independent in a form as may be specified by the competent authority;
  - (c) an indication of the scope of, and the purpose for which, the report was prepared;
  - (d) the date and season of the site investigation and the relevance of the season to the outcome of the assessment;
  - (e) a description of the methodology adopted in preparing the report or carrying out the specialised process;
  - (f) the specific identified sensitivity of the site related to the activity and its associated structures and infrastructure;
  - (g) an identification of any areas to be avoided, including buffers;
  - (h) a map superimposing the activity including the associated structures and infrastructure on the environmental sensitivities of the site including areas to be avoided, including buffers;
  - (i) a description of any assumptions made and any uncertainties or gaps in knowledge;
  - (j) a description of the findings and potential implications of such findings on the impact of the proposed activity, including identified alternatives on the environment;
  - (k) any mitigation measures for inclusion in the EMPr;
  - (l) any conditions for inclusion in the environmental authorisation;
  - (m) any monitoring requirements for inclusion in the EMPr or environmental authorisation;
  - (n) a reasoned opinion—
    - (i) as to whether the proposed activity or portions thereof should be authorised; and

- (ii) if the opinion is that the proposed activity or portions thereof should be authorised, any avoidance, management and mitigation measures that should be included in the EMPr, and where applicable, the closure plan;
- (o) a description of any consultation process that was undertaken during the course of preparing the specialist report;
- (p) a summary and copies of any comments received during any consultation process and where applicable all responses thereto; and
- (q) any other information requested by the competent authority.

## Appendix 7

### Environmental audit report

1. The environmental audit report must provide for recommendations regarding the need to amend the EMPr, and where applicable, the closure plan.

### Objective of the environmental audit report

2. The objective of the environmental audit report is to—

- (a) report on—
  - (i) the level of compliance with the conditions of the environmental authorisation and the EMPr, and where applicable, the closure plan; and
  - (ii) the extent to which the avoidance, management and mitigation measures provided for in the EMPr, and where applicable, the closure plan achieve the objectives and outcomes of the EMPr, and closure plan.
- (b) identify and assess any new impacts and risks as a result of undertaking the activity;
- (c) evaluate the effectiveness of the EMPr, and where applicable, the closure plan;
- (d) identify shortcomings in the EMPr, and where applicable, the closure plan; and
- (e) identify the need for any changes to the avoidance, management and mitigation measures provided for in the EMPr, and where applicable, the closure plan.

### Content of environmental audit reports

3. (1) An environmental audit report prepared in terms of these Regulations must contain—

- (a) details of—
  - (i) the independent person who prepared the environmental audit report; and
  - (ii) the expertise of independent person that compiled the environmental audit report;



- (b) a declaration that the independent auditor is independent in a form as may be specified by the competent authority;
- (c) an indication of the scope of, and the purpose for which, the environmental audit report was prepared;
- (d) a description of the methodology adopted in preparing the environmental audit report;
- (e) an indication of the ability of the EMPr, and where applicable, the closure plan to—
  - (i) sufficiently provide for the avoidance, management and mitigation of environmental impacts associated with the undertaking of the activity on an on-going basis;
  - (ii) sufficiently provide for the avoidance, management and mitigation of environmental impacts associated with the closure of the facility; and
  - (iii) ensure compliance with the provisions of environmental authorisation, EMPr, and where applicable, the closure plan;
- (f) a description of any assumptions made, and any uncertainties or gaps in knowledge;
- (g) a description of any consultation process that was undertaken during the course of carrying out the environmental audit report;
- (j) a summary and copies of any comments that were received during any consultation process; and
- (k) any other information requested by the competent authority.

No. R. 983

4 December 2014

**NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998  
(ACT NO. 107 OF 1998)**

**LISTING NOTICE 1: LIST OF ACTIVITIES AND COMPETENT AUTHORITIES  
IDENTIFIED IN TERMS OF SECTIONS 24(2) AND 24D**

I, Bomo Edith Edna Molewa, Minister of Environmental Affairs, hereby repeal Listing Notice 1 of 2010, published under Notice No. 544 in Gazette No. 33306 dated 18 June 2010, and publish Listing Notice 1 of 2014 under sections 24(2), 24(5), 24D and 44, read with section 47A (1) (b) of the National Environmental Management Act, 1998 (Act No. 107 of 1998), set out in the Schedule hereto.



**BOMO EDITH EDNA MOLEWA  
MINISTER OF ENVIRONMENTAL AFFAIRS**

## SCHEDULE

### PURPOSE

1. The purpose of this Notice is to identify activities that would require environmental authorisations prior to commencement of that activity and to identify competent authorities in terms of sections 24(2) and 24D of the Act.

### DEFINITIONS

2. (1) In this Notice, any word or expression to which a meaning has been assigned in the Act shall have the meaning so assigned, and unless the context otherwise indicates—

**“agri-industrial”** means an undertaking involving the beneficiation of agricultural produce;

**“associated structures, infrastructure and earthworks”** means any structures, infrastructure or earthworks, including borrow pits, that is necessary for the development and functioning of a facility or activity;

**“canal”** means an open structure, that is lined or reinforced, for the conveying of a liquid or that serves as an artificial watercourse;

**“channel”** means an excavated hollow bed for running water or an artificial underwater depression to make a water body navigable in a natural watercourse, river or the sea;

**“concentration of animals”** means the keeping of animals in a confined space or structure, including a feedlot, where they are fed in order to prepare them for slaughter or to produce products such as milk or eggs;

**“dam”** when used in these Regulations means any barrier dam and any other form of impoundment used for the storage of water;

**“dangerous goods”** means goods containing any of the substances as contemplated in South African National Standard No. 10234, supplement 2008 1.00: designated “List of classification and labelling of chemicals in accordance with the Globally Harmonized Systems (GHS)” published by Standards South Africa, and where the presence of such goods, regardless of quantity, in a blend or mixture, causes such blend or mixture to have one or more of the characteristics listed in the Hazard Statements in section 4.2.3, namely physical hazards, health hazards or environmental hazards;

**“decommissioning”** means to take out of active service permanently or dismantle partly or wholly, or closure of a facility to the extent that it cannot be readily re-commissioned;

**“development”** means 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, including any associated post development monitoring, 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”** means any evidence of physical alteration as a result of the undertaking of any activity;

**“development setback”** means a setback line defined or adopted by the competent authority;

**“expansion”** means the modification, extension, alteration or upgrading of a facility, structure or infrastructure at which an activity takes place in such a manner that the capacity of the facility or the footprint of the activity is increased;

**“indigenous vegetation”** refers to vegetation consisting of indigenous plant species occurring naturally in an area, regardless of the level of alien

infestation and where the topsoil has not been lawfully disturbed during the preceding ten years;

**“industrial complex”** means an area used or zoned for industrial purposes, including bulk storage, manufacturing, processing or packaging purposes;

**“large stock unit”** means domesticated units including but not limited to cattle and horses, as well as game, including but not limited to antelope and buck with an average adult male live weight of 100 kilograms or more;

**“linear activities”** include railways, roads, funiculars, pipelines, conveyor belts, cableways, powerlines, fences, runways, aircraft landing strips, and telecommunication lines;

**“maintenance”** means actions performed to keep a structure or system functioning or in service on the same location, capacity and footprint;

**“maintenance management plan”** means a management plan for maintenance purposes defined or adopted by the competent authority;

**“marina”** means a constructed waterway that is normally associated with residential or commercial use and that could include mooring facilities;

**“phased activities”** means an activity that is developed in phases over time on the same or adjacent properties to create a single or linked entity;

**“previous NEMA notices”** as contemplated in these transitional arrangements means the previous notices published in terms of section 24(2) of NEMA (Government Notices R. 386 and R. 387 in the Government Gazette of 21 April 2006, as amended, or Government Notice No. R. 544, 545 and 546 in the Government Gazette of 18 June 2010, as amended);

“**small stock unit**” means domesticated units, including sheep, goats and pigs, as well as game, including but not limited to antelope and buck with an average adult male live weight of less than 100 kilograms;

“**the Act**” means the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended;

“**throughput capacity**” means the design capacity or maximum capable capacity of a facility, structures or infrastructure, whichever is the greater;

“**unit**” in relation to a quantity standard for determining throughput of facilities or infrastructure for the slaughter of animals, has the meaning assigned to it in Regulations promulgated in terms of the Meat Safety Act, 2000 (Act No. of 40 of 2000);

“**urban areas**” means areas situated within the urban edge (as defined or adopted by the competent authority), or in instances where no urban edge or boundary has been defined or adopted, it refers to areas situated within the edge of built-up areas;

“**watercourse**” means –

- (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; and

“**wetland**” means land which is transitional between terrestrial and aquatic systems where the water table is usually at or near the surface, or the land is periodically covered with shallow water, and which land in normal circumstances supports or would support vegetation typically adapted to life in saturated soil.



- (2) The following words relevant to coastal activities will have the meaning so assigned to it in the National Environmental Management: Integrated Coastal Management Act, 2008 (Act No. 24 of 2008):
- a) "coastal public property";
  - b) "estuary";
  - c) "high-water mark";
  - d) "littoral active zone";
  - e) "sea"; and
  - f) "seashore".
- (3) The following words will have the meaning assigned to them in terms of section 1 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002):
- a) "exploration right";
  - b) "mine";
  - c) "mineral";
  - d) "mining permit";
  - e) "mining right";
  - f) "petroleum";
  - g) "production right"; and
  - h) "prospecting right".

### **IDENTIFIED ACTIVITIES AND COMPETENT AUTHORITIES**

3. (1) The activities listed in Appendix 1 are identified in terms of section 24(2) (a) of the Act as activities that may not commence without an environmental authorisation from the competent authority.
- (2) The investigation, assessment and communication of potential impact of activities must follow the procedure as prescribed in regulations 19 and 20 of the Environmental Impact Assessment Regulations, 2014.

- (3) Where Listing Notice 4 applies, an application for environmental authorisation must be submitted for an activity contemplated in that Notice and not for an activity contemplated in this Notice.

#### **REPEAL OF NOTICE 544 OF 18 June 2010**

4. Notice No. 544 published in *Gazette* 33306 on 18 June 2010 is hereby repealed.

#### **SHORT TITLE**

5. This Listing Notice is called the Environmental Impact Assessment Regulations Listing Notice 1 of 2014, and takes effect on 8 December 2014.

## APPENDIX 1

Activity number	Activity description	Identification of competent authority
1.	<p>The development of facilities or infrastructure for the generation of electricity from a renewable resource where—</p> <p>(i) the electricity output is more than 10 megawatts but less than 20 megawatts; or</p> <p>(ii) the output is 10 megawatts or less but the total extent of the facility covers an area in excess of 1 hectare;</p> <p>excluding where such development of facilities or infrastructure is for photovoltaic installations and occurs within an urban area.</p>	<p>The competent authority in respect of the activities listed in this part of the Notice is the competent authority in the province in which the activity is to be undertaken, unless—</p> <p>(a) it is an application for an activity contemplated in section 24C(2) of the Act, in which case the competent authority is the Minister or an organ of state with delegated powers in terms of section 42(1) of the Act;</p> <p>(b) the listed or specified activity is or is directly related to—</p> <p>i. prospecting or exploration of a mineral or petroleum resource; or</p> <p>ii. extraction and primary processing of a mineral or petroleum resource;</p> <p>in which case the competent</p>
2.	<p>The development and related operation of facilities or infrastructure for the generation of electricity from a non-renewable resource where—</p> <p>(i) the electricity output is more than 10 megawatts but less than 20 megawatts; or</p> <p>(ii) the output is 10 megawatts or less but the total extent of the facility covers an area in excess of 1 hectare.</p>	
3.	<p>The development and related operation of facilities or infrastructure for the slaughter of animals with a product throughput of—</p> <p>(i) poultry exceeding 50 poultry per day;</p> <p>(ii) reptiles, game and red meat exceeding 6 units per day; or</p> <p>(iii) fish, crustaceans and amphibians with a wet weight product throughput of 20 000 kg per annum.</p>	
4.	<p>The development and related operation of facilities or infrastructure for the concentration of animals for the purpose of commercial production in densities that exceed—</p>	

		authority is the Minister responsible for mineral resources.
	<p>(i) 20 square metres per large stock unit and more than 500 units per facility;</p> <p>(ii) 8 square meters per small stock unit and;</p> <p>a. more than 1 000 units per facility excluding pigs where (b) applies; or</p> <p>b. more than 250 pigs per facility excluding piglets that are not yet weaned;</p> <p>(iii) 30 square metres per crocodile at any level of production, excluding crocodiles younger than 6 months;</p> <p>(iv) 3 square metre per rabbit and more than 500 rabbits per facility; or</p> <p>(v) 250 square metres per ostrich or emu and more than 50 ostriches or emus per facility.</p>	<p>The exception mentioned in (b) above does not apply to the following activities contained in this Notice:</p> <p>4;</p> <p>5;</p> <p>6;</p> <p>7;</p> <p>8;</p> <p>23;</p> <p>29;</p> <p>30;</p> <p>38;</p> <p>39;</p> <p>40;</p> <p>41;</p>
<p>5.</p>	<p>The development and related operation of facilities or infrastructure for the concentration of—</p> <p>(i) more than 1 000 poultry per facility situated within an urban area, excluding chicks younger than 20 days;</p> <p>(ii) more than 5 000 poultry per facility situated outside an urban area, excluding chicks younger than 20 days;</p> <p>(iii) more than 5000 chicks younger than 20 days per facility situated within an urban area; or</p> <p>(iv) more than 25000 chicks younger than 20 days per facility situated outside an urban area.</p>	<p>42;</p> <p>43;</p> <p>44;</p> <p>61; and</p> <p>62</p>
<p>6.</p>	<p>The development and related operation of facilities, infrastructure or structures for aquaculture of—</p> <p>(i) finfish, crustaceans, reptiles or amphibians, where such facility, infrastructure or structures will have a production output exceeding 20 000 kg per annum (wet weight);</p> <p>(ii) molluscs and echinoderms, where such facility, infrastructure or structures will have a production output exceeding 30 000 kg per annum (wet weight); or</p>	

	<p>(iii) aquatic plants, where such facility, infrastructure or structures will have a production output exceeding 60 000 kg per annum (wet weight);</p> <p>excluding where the development of such facilities, infrastructure or structures is for purposes of sea-based cage culture in which case activity 7 in this Notice applies.</p>
7.	<p>The development and related operation of facilities, infrastructure or structures for aquaculture of sea-based cage culture of finfish, crustaceans, reptiles, amphibians, molluscs, echinoderms and aquatic plants, where the facility, infrastructure or structures will have a production output exceeding 50 000 kg per annum (wet weight).</p>
8.	<p>The development and related operation of hatcheries or agri-industrial facilities outside industrial complexes where the development footprint covers an area of 2 000 square metres or more.</p>
9.	<p>The development of infrastructure exceeding 1000 metres in length for the bulk transportation of water or storm water—</p> <p>(i) with an internal diameter of 0,36 metres or more; or</p> <p>(ii) with a peak throughput of 120 litres per second or more;</p> <p>excluding where—</p> <p>(a) such infrastructure is for bulk transportation of water or storm water or storm water drainage inside a road reserve; or</p> <p>(b) where such development will occur within an urban area.</p>
10.	<p>The development and related operation of infrastructure exceeding 1000 metres in length for the bulk transportation of sewage, effluent, process water, waste water, return water, industrial discharge or slimes –</p>

	<p>(i) with an internal diameter of 0,36 metres or more; or</p> <p>(ii) with a peak throughput of 120 litres per second or more;</p> <p>excluding where—</p> <p>(a) such infrastructure is for bulk transportation of sewage, effluent, process water, waste water, return water, industrial discharge or slimes inside a road reserve; or</p> <p>(b) where such development will occur within an urban area.</p>
<p><b>11.</b></p>	<p>The development of facilities or infrastructure for the transmission and distribution of electricity—</p> <p>(i) outside urban areas or industrial complexes with a capacity of more than 33 but less than 275 kilovolts; or</p> <p>(ii) inside urban areas or industrial complexes with a capacity of 275 kilovolts or more.</p>
<p><b>12.</b></p>	<p>The development of—</p> <p>(i) canals exceeding 100 square metres in size;</p> <p>(ii) channels exceeding 100 square metres in size;</p> <p>(iii) bridges exceeding 100 square metres in size;</p> <p>(iv) dams, where the dam, including infrastructure and water surface area, exceeds 100 square metres in size;</p> <p>(v) weirs, where the weir, including infrastructure and water surface area, exceeds 100 square metres in size;</p> <p>(vi) bulk storm water outlet structures exceeding 100 square metres in size;</p> <p>(vii) marinas exceeding 100 square metres in size;</p> <p>(viii) jetties exceeding 100 square metres in size;</p> <p>(ix) slipways exceeding 100 square metres in size;</p> <p>(x) buildings exceeding 100 square metres in size;</p>



	<p>(xi) boardwalks exceeding 100 square metres in size; or</p> <p>(xii) infrastructure or structures with a physical footprint of 100 square metres or more;</p> <p>where such development occurs—</p> <p>(a) within a watercourse;</p> <p>(b) in front of a development setback; or</p> <p>(c) if no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse; —</p> <p>excluding—</p> <p>(aa) the development of infrastructure or structures within existing ports or harbours that will not increase the development footprint of the port or harbour;</p> <p>(bb) where such development activities are related to the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies;</p> <p>(cc) activities listed in activity 14 in Listing Notice 2 of 2014 or activity 14 in Listing Notice 3 of 2014, in which case that activity applies;</p> <p>(dd) where such development occurs within an urban area; or</p> <p>(ee) where such development occurs within existing roads or road reserves.</p>
13.	<p>The development of facilities or infrastructure for the off-stream storage of water, including dams and reservoirs, with a combined capacity of 50000 cubic metres or more, unless such storage falls within the ambit of activity 16 in Listing Notice 2 of 2014.</p>

14.	The development of facilities or infrastructure, for the storage, or for the storage and handling, of a dangerous good, where such storage occurs in containers with a combined capacity of 80 cubic metres or more but not exceeding 500 cubic metres.
15.	<p>The development of structures in the coastal public property where the development footprint is bigger than 50 square metres, excluding—</p> <ul style="list-style-type: none"> <li>(i) the development of structures within existing ports or harbours that will not increase the development footprint of the port or harbour;</li> <li>(ii) the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies;</li> <li>(iii) the development of temporary structures within the beach zone where such structures will be removed within 6 weeks of the commencement of development and where indigenous vegetation will not be cleared; or</li> <li>(iv) activities listed in activity 14 in Listing Notice 2 of 2014, in which case that activity applies.</li> </ul>
16.	The development and related operation of facilities for the desalination of water with a design capacity to produce more than 100 cubic metres of treated water per day.
17.	<p>Development—</p> <ul style="list-style-type: none"> <li>(i) in the sea;</li> <li>(ii) in an estuary;</li> <li>(iii) within the littoral active zone;</li> <li>(iv) in front of a development setback; or</li> <li>(v) if no development setback exists, within a distance of 100 metres inland of the high-</li> </ul>

	<p>water mark of the sea or an estuary, whichever is the greater;</p> <p>in respect of—</p> <ul style="list-style-type: none"> <li>(a) fixed or floating jetties and slipways;</li> <li>(b) tidal pools;</li> <li>(c) embankments;</li> <li>(d) rock revetments or stabilising structures including stabilising walls;</li> <li>(e) buildings of 50 square metres or more; or</li> <li>(f) infrastructure with a development footprint of 50 square metres or more —</li> </ul> <p>but excluding—</p> <ul style="list-style-type: none"> <li>(aa) the development of infrastructure and structures within existing ports or harbours that will not increase the development footprint of the port or harbour;</li> <li>(bb) where such development is related to the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies;</li> <li>(cc) the development of temporary infrastructure or structures where such structures will be removed within 6 weeks of the commencement of development and where indigenous vegetation will not be cleared; or</li> <li>(dd) where such development occurs within an urban area.</li> </ul> <p>The planting of vegetation or placing of any material on dunes or exposed sand surfaces of more than 10 square metres, within the littoral active zone, for the purpose of preventing the free movement of sand, erosion or accretion, excluding where —</p> <ul style="list-style-type: none"> <li>(i) the planting of vegetation or placement of material relates to restoration and maintenance of indigenous coastal vegetation undertaken in accordance with a maintenance management plan; or</li> </ul>
18.	

	<p>(ii) such planting of vegetation or placing of material will occur behind a development setback.</p>
<p>19.</p>	<p>The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 5 cubic metres from—</p> <ul style="list-style-type: none"> <li>(i) a watercourse;</li> <li>(ii) the seashore; or</li> <li>(iii) the littoral active zone, an estuary or a distance of 100 metres inland of the high-water mark of the sea or an estuary, whichever distance is the greater—</li> </ul> <p>but excluding where such infilling, depositing, dredging, excavation, removal or moving—</p> <ul style="list-style-type: none"> <li>(a) will occur behind a development setback;</li> <li>(b) is for maintenance purposes undertaken in accordance with a maintenance management plan; or</li> <li>(c) falls within the ambit of activity 21 in this Notice, in which case that activity applies.</li> </ul>
<p>20.</p>	<p>Any activity including the operation of that activity which requires a prospecting right in terms of section 16 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002), including associated infrastructure, structures and earthworks, directly related to prospecting of a mineral resource, including activities for which an exemption has been issued in terms of section 106 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002).</p>
<p>21.</p>	<p>Any activity including the operation of that activity which requires a mining permit in terms of section 27 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002), including associated infrastructure, structures and earthworks directly related to the extraction of a mineral resource, including activities for which an exemption has been issued</p>

	in terms of section 106 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002).
	The decommissioning of any activity requiring –
22.	<p>(i) a closure certificate in terms of section 43 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002); or</p> <p>(ii) a prospecting right, mining right, mining permit, production right or exploration right, where the throughput of the activity has reduced by 90% or more over a period of 5 years excluding where the competent authority has in writing agreed that such reduction in throughput does not constitute closure.</p>
23.	The development of cemeteries of 2500 square metres or more in size.
	The development of—
24.	<p>(i) a road for which an environmental authorisation was obtained for the route determination in terms of activity 5 in Government Notice 387 of 2006 or activity 18 in Government Notice 545 of 2010; or</p> <p>(ii) a road with a reserve wider than 13,5 meters, or where no reserve exists where the road is wider than 8 metres;</p> <p>but excluding—</p> <p>(a) roads which are identified and included in activity 27 in Listing Notice 2 of 2014; or</p> <p>(b) roads where the entire road falls within an urban area.</p>
25.	The development and related operation of facilities or infrastructure for the treatment of effluent, wastewater or sewage with a daily throughput capacity of more than 2000 cubic metres but less than 15000 cubic metres.
26.	Residential, retail, recreational, tourism, commercial or institutional developments of 1000 square metres or more, on land previously used for mining or heavy industrial purposes; —

	<p>excluding —</p> <p>(i) where such land has been remediated in terms of part 8 of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) in which case the National Environmental Management: Waste Act, 2008 applies; or</p> <p>(ii) where an environmental authorisation has been obtained for the decommissioning of such a mine or industry in terms of this Notice or any previous NEMA notice; or</p> <p>(iii) where a closure certificate has been issued in terms of section 43 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002) for such land.</p>
27.	<p>The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for—</p> <p>(i) the undertaking of a linear activity; or</p> <p>(ii) maintenance purposes undertaken in accordance with a maintenance management plan.</p>
28.	<p>Residential, mixed, retail, commercial, industrial or institutional developments where such land was used for agriculture or afforestation on or after 01 April 1998 and where such development:</p> <p>(i) will occur inside an urban area, where the total land to be developed is bigger than 5 hectares; or</p> <p>(ii) will occur outside an urban area, where the total land to be developed is bigger than 1 hectare;</p> <p>excluding where such land has already been developed for residential, mixed, retail, commercial, industrial or institutional purposes.</p>
29.	<p>The release of genetically modified organisms into the environment, where assessment for</p>



	such release is required by the Genetically Modified Organisms Act, 1997 (Act No. 15 of 1997) or the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004).
<b>30.</b>	Any process or activity identified in terms of section 53(1) of the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004).
<b>31.</b>	<p>The decommissioning of existing facilities, structures or infrastructure for—</p> <ul style="list-style-type: none"> <li>(i) any development and related operation activity or activities listed in this Notice, Listing Notice 2 of 2014 or Listing Notice 3 of 2014;</li> <li>(ii) any expansion and related operation activity or activities listed in this Notice, Listing Notice 2 of 2014 or Listing Notice 3 of 2014;</li> <li>(iii) any development and related operation activity or activities and expansion and related operation activity or activities listed in this Notice, Listing Notice 2 of 2014 or Listing Notice 3 of 2014;</li> <li>(iv) any phased activity or activities for development and related operation activity or expansion or related operation activities listed in this Notice or Listing Notice 3 of 2014;</li> </ul> <p>or</p> <ul style="list-style-type: none"> <li>(v) any activity regardless the time the activity was commenced with, where such activity: <ul style="list-style-type: none"> <li>(a) is similarly listed to an activity in (i), (ii), (iii), or (iv) above; and</li> <li>(b) is still in operation or development is still in progress;</li> </ul> </li> </ul> <p>excluding where—</p> <ul style="list-style-type: none"> <li>(aa) activity 22 of this notice applies; or</li> <li>(bb) the decommissioning is covered by part 8 of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) in which case the National Environmental Management: Waste Act, 2008 applies.</li> </ul>

32.	The continuation of any development where the environmental authorisation has lapsed and where the continuation of the development, after the date the environmental authorisation has lapsed will meet the threshold of any activity or activities listed in this Notice, Listing Notice 2 of 2014, or Listing Notice 3 or Listing Notice 4 of 2014.
33.	The underground gasification of 300 kilograms or more coal per day, including any associated operation.
34.	<p>The expansion or changes to existing facilities for any process or activity where such expansion or changes will result in the need for a permit or licence or an amended permit or licence in terms of national or provincial legislation governing the release of emissions or pollution, excluding—</p> <p>(i) where the facility, process or activity is included in the list of waste management activities published in terms of section 19 of the National Environmental Management Waste Act, 2008 (Act No. 59 of 2008) in which case the National Environmental Management Waste Act, 2008 applies; or</p> <p>(ii) the expansion of or changes to existing facilities for the treatment of effluent, wastewater or sewage where the capacity will be increased by less than 15 000 cubic metres per day.</p>
35.	<p>The expansion of residential, retail, recreational, tourism, commercial or institutional developments on land previously used for mining or heavy industrial purposes, where the increased development footprint will exceed 1000 square meters;</p> <p>excluding—</p> <p>(i) where such land has been remediated in terms of part 8 of the National Environmental Management Waste Act, 2008 (Act No. 59 of 2008) in which case the National</p>

	<p>Environmental Management: Waste Act, 2008 applies; or</p> <p>(ii) where an environmental authorisation has been obtained for the decommissioning of such a mine or industry in terms of this Notice or any previous NEMA notice; or</p> <p>(iii) where a closure certificate has been issued in terms of section 43 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002) for such land.</p>
<p><b>36.</b></p>	<p>The expansion of facilities or structures for the generation of electricity from a renewable resource where—</p> <p>(i) the electricity output will be increased by 10 megawatts or more, excluding where such expansion takes place on the original development footprint; or</p> <p>(ii) regardless the increased output of the facility, the development footprint will be expanded by 1 hectare or more;</p> <p>excluding where such expansion of facilities or structures is for photovoltaic installations and occurs within an urban area.</p>
<p><b>37.</b></p>	<p>The expansion and related operation of facilities for the generation of electricity from a non-renewable resource where—</p> <p>(i) the electricity output will be increased by 10 megawatts or more, excluding where such expansion takes place on the original development footprint; or</p> <p>(ii) regardless the increased output of the facility, the development footprint will be expanded by 1 hectare or more.</p>
<p><b>38.</b></p>	<p>The expansion and related operation of facilities for the slaughter of animals where the daily product throughput will be increased by more than—</p> <p>(i) 50 poultry;</p> <p>(ii) 6 units of reptiles, red meat and game; or</p> <p>(iii) 20 000 kg wet weight per annum of fish, crustaceans and amphibians.</p>

39.	<p>The expansion and related operation of facilities for the concentration of animals for the purpose of commercial production in densities that will exceed—</p> <ul style="list-style-type: none"> <li>(i) 20 square metres per large stock unit, where the expansion will constitute more than 500 additional units;</li> <li>(ii) 8 square metres per small stock unit, where the expansion will constitute more than: <ul style="list-style-type: none"> <li>(a) 1 000 additional units per facility or more excluding pigs where (b) applies; or</li> <li>(b) 250 additional pigs, excluding piglets that are not yet weaned;</li> </ul> </li> <li>(iii) 30 square metres per crocodile at any level of production where the expansion will constitute an increase in the level of production, excluding crocodiles younger than 6 months;</li> <li>(iv) 3 square metre per rabbit where the expansion will constitute more than 500 additional rabbits; or</li> <li>(v) 250 square metres per ostrich or emu where the expansion will constitute more than 50 additional ostriches or emus.</li> </ul>
40.	<p>The expansion and related operation of facilities for the concentration of poultry, excluding chicks younger than 20 days, where the capacity of the facility will be increased by—</p> <ul style="list-style-type: none"> <li>(i) more than 1 000 poultry where the facility is situated within an urban area; or</li> <li>(ii) more than 5 000 poultry per facility situated outside an urban area.</li> </ul>
41.	<p>The expansion and related operation of facilities, infrastructure or structures for aquaculture of—</p> <ul style="list-style-type: none"> <li>(i) finfish, crustaceans, reptiles or amphibians, where the annual production output of such facility, infrastructure or structures will be increased by 20 000 kg (wet weight) or more;</li> <li>(ii) molluscs and echinoderms where the annual production output of such facility, infrastructure or structures will be increased by 30 000 kg (wet weight) or more; or</li> </ul>

	<p>(iii) aquatic plants where the annual production output of such facility, infrastructure or structures will be increased by 60 000 kg (wet weight) or more;</p> <p>excluding where the expansion of facilities, infrastructure or structures is for purposes of sea-based cage culture in which case activity 42 in this Notice will apply.</p>
42.	<p>The expansion and related operation of facilities, infrastructure or structures for aquaculture of sea-based cage culture of finfish, crustaceans, reptiles, amphibians, molluscs, echinoderms and aquatic plants where the annual production output of such facility, infrastructure or structures will be increased by 50 000 kg (wet weight) or more.</p>
43.	<p>The expansion and related operation of hatcheries or agri-industrial facilities outside industrial complexes, where the development footprint of the hatcheries or agri-industrial facilities will be increased by 2 000 square metres or more.</p>
44.	<p>The expansion of cemeteries by 2500 square metres or more.</p>
45.	<p>The expansion of infrastructure for the bulk transportation of water or storm water where the existing infrastructure—</p> <ul style="list-style-type: none"> <li>(i) has an internal diameter of 0,36 metres or more; or</li> <li>(ii) has a peak throughput of 120 litres per second or more; and</li> </ul> <ul style="list-style-type: none"> <li>(a) where the facility or infrastructure is expanded by more than 1000 metres in length; or</li> <li>(b) where the throughput capacity of the facility or infrastructure will be increased by 10% or more;</li> </ul> <p>excluding where such expansion—</p> <ul style="list-style-type: none"> <li>(aa) relates to transportation of water or storm water within a road reserve; or</li> </ul>

	<p>(bb) will occur within an urban area.</p>
<p><b>46.</b></p>	<p>The expansion and related operation of infrastructure for the bulk transportation of sewage, effluent, process water, waste water, return water, industrial discharge or slimes where the existing infrastructure—</p> <ul style="list-style-type: none"> <li>(i) has an internal diameter of 0,36 metres or more; or</li> <li>(ii) has a peak throughput of 120 litres per second or more; and</li> </ul> <ul style="list-style-type: none"> <li>(a) where the facility or infrastructure is expanded by more than 1000 metres in length; or</li> <li>(b) where the throughput capacity of the facility or infrastructure will be increased by 10% or more;</li> </ul> <p>excluding where such expansion—</p> <ul style="list-style-type: none"> <li>(aa) relates to transportation of sewage, effluent, process water, waste water, return water, industrial discharge or slimes within a road reserve; or</li> <li>(bb) will occur within an urban area.</li> </ul>
<p><b>47.</b></p>	<p>The expansion of facilities or infrastructure for the transmission and distribution of electricity where the expanded capacity will exceed 275 kilovolts and the development footprint will increase.</p>
<p><b>48.</b></p>	<p>The expansion of—</p> <ul style="list-style-type: none"> <li>(i) canals where the canal is expanded by 100 square metres or more in size ;</li> <li>(ii) channels where the channel is expanded by 100 square metres or more in size ;</li> <li>(iii) bridges where the bridge is expanded by 100 square metres or more in size;</li> <li>(iv) dams, where the dam, including infrastructure and water surface area, is expanded by 100 square metres or more in size;</li> </ul>



	<p>(v) weirs, where the weir, including infrastructure and water surface area, is expanded by 100 square metres or more in size;</p> <p>(vi) bulk storm water outlet structures where the bulk storm water outlet structure is expanded by 100 square metres or more in size; or</p> <p>(vii) marinas where the marina is expanded by 100 square metres or more in size;</p> <p>where such expansion or expansion and related operation occurs—</p> <p>(a) within a watercourse;</p> <p>(b) in front of a development setback; or</p> <p>(c) if no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse;</p> <p>excluding—</p> <p>(aa) the expansion of infrastructure or structures within existing ports or harbours that will not increase the development footprint of the port or harbour;</p> <p>(bb) where such expansion activities are related to the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies;</p> <p>(cc) activities listed in activity 14 in Listing Notice 2 of 2014 or activity 14 in Listing Notice 3 of 2014, in which case that activity applies;</p> <p>(dd) where such expansion occurs within an urban area; or</p> <p>(ee) where such expansion occurs within existing roads or road reserves.</p> <p>The expansion of –</p> <p>(i) jetties by more than 100 square metres;</p> <p>(ii) slipways by more than 100 square metres;</p> <p>(iii) buildings by more than 100 square metres;</p>
49.	

	<p>(iv) boardwalks by more than 100 square metres; or</p> <p>(v) infrastructure or structures where the physical footprint is expanded by 100 square metres or more;</p> <p>where such expansion or expansion and related operation occurs—</p> <p>(a) within a watercourse;</p> <p>(b) in front of a development setback; or</p> <p>(c) if no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse;</p> <p>excluding—</p> <p>(aa) the expansion of infrastructure or structures within existing ports or harbours that will not increase the development footprint of the port or harbour;</p> <p>(bb) where such expansion activities are related to the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies;</p> <p>(cc) activities listed in activity 14 in Listing Notice 2 of 2014 or activity 14 in Listing Notice 3 of 2014, in which case that activity applies;</p> <p>(dd) where such expansion occurs within an urban area; or</p> <p>(ee) where such expansion occurs within existing roads or road reserves.</p>
<p><b>50.</b></p>	<p>The expansion of facilities or infrastructure for the off-stream storage of water, including dams and reservoirs, where the combined capacity will be increased by 50000 cubic metres or more.</p>
<p><b>51.</b></p>	<p>The expansion of facilities for the storage, or storage and handling, of a dangerous good, where the capacity of such storage facility will be expanded by more than 80 cubic metres.</p>

52.	The expansion of structures in the coastal public property where the development footprint will be increased by more than 50 square metres, excluding such expansions within existing ports or harbours where there will be no increase in the development footprint of the port or harbour and excluding activities listed in activity 23 in Listing Notice 3 of 2014, in which case that activity applies.	
53.	The expansion and related operation of facilities for the desalination of water where the design capacity will be expanded to produce an additional 100 cubic metres or more of treated water per day.	
54.	<p>The expansion of facilities—</p> <ul style="list-style-type: none"> <li>(i) in the sea;</li> <li>(ii) in an estuary;</li> <li>(iii) within the littoral active zone;</li> <li>(iv) in front of a development setback; or</li> <li>(v) if no development setback exists, within a distance of 100 metres inland of the high-water mark of the sea or an estuary, whichever is the greater;</li> </ul> <p>in respect of—</p> <ul style="list-style-type: none"> <li>(a) fixed or floating jetties and slipways;</li> <li>(b) tidal pools;</li> <li>(c) embankments;</li> <li>(d) rock revetments or stabilising structures including stabilising walls;</li> <li>(e) buildings where the building is expanded by 50 square metres or more; or</li> <li>(f) infrastructure where the development footprint is expanded by 50 square metres or more,</li> </ul>	

	<p>but excluding—</p> <p>(aa) the expansion of infrastructure or structures within existing ports or harbours that will not increase the development footprint of the port or harbour; or</p> <p>(bb) where such expansion occurs within an urban area.</p>	
<p>55.</p>	<p>Expansion—</p> <p>(i) in the sea;</p> <p>(ii) in an estuary;</p> <p>(iii) within the littoral active zone;</p> <p>(iv) in front of a development setback; or</p> <p>(v) if no development setback exists, within a distance of 100 metres inland of the high-water mark of the sea or an estuary, whichever is the greater;</p> <p>in respect of —</p> <p>(a) facilities associated with the arrival and departure of vessels and the handling of cargo;</p> <p>(b) piers;</p> <p>(c) inter- and sub-tidal structures for entrapment of sand;</p> <p>(d) breakwater structures;</p> <p>(e) coastal marinas;</p> <p>(f) coastal harbours or ports;</p> <p>(g) tunnels; or</p> <p>(h) underwater channels;</p> <p>but excluding the expansion of infrastructure or structures within existing ports or harbours</p>	

	that will not increase the development footprint of the port or harbour.
	The widening of a road by more than 6 metres, or the lengthening of a road by more than 1 kilometre—
<b>56.</b>	(i) where the existing reserve is wider than 13,5 meters; or (ii) where no reserve exists, where the existing road is wider than 8 metres; excluding where widening or lengthening occur inside urban areas.
<b>57.</b>	The expansion and related operation of facilities or infrastructure for the treatment of effluent, wastewater or sewage where the capacity will be increased by 15000 cubic metres or more per day and the development footprint will increase by 1000 square meters or more.
<b>58.</b>	The increase of the amount of coal gasified underground, where any such increase exceeds 300 kg per day, including any associated operation.,.
<b>59.</b>	The expansion and related operation of facilities or infrastructure for the refining, extraction or processing of gas, oil or petroleum products where the installed capacity of the facility will be increased by 50 cubic metres or more per day, excluding facilities for the refining, extraction or processing of gas from landfill sites.
	The expansion and related operation of facilities or infrastructure for the bulk transportation of dangerous goods—
<b>60.</b>	(i) in gas form, outside an industrial complex, by an increased throughput capacity of 700 tons or more per day; (ii) in liquid form, outside an industrial complex or zone, by an increased throughput capacity of 50 cubic metres or more per day; or (iii) in solid form, outside an industrial complex or zone, by an increased throughput capacity of 50 tons or more per day.

61.	The expansion of airports where the development footprint will be increased.
62.	The expansion of facilities or infrastructure for marine telecommunication where there will be an increased development footprint.
63.	<p>The expansion of facilities or infrastructure for the transfer of water from and to or between any combination of the following—</p> <ul style="list-style-type: none"> <li>(i) water catchments;</li> <li>(ii) water treatment works; or</li> <li>(iii) impoundments;</li> </ul> <p>where the capacity will be increased by 50 000 cubic metres or more per day, but excluding water treatment works where water is treated for drinking purposes.</p>
64.	<p>The expansion of railway lines, stations or shunting yards where there will be an increased development footprint, excluding—</p> <ul style="list-style-type: none"> <li>(i) railway lines, shunting yards and railway stations in industrial complexes or zones;</li> <li>(ii) underground railway lines in mines; or</li> <li>(iii) additional railway lines within the railway line reserve.</li> </ul>
65.	The expansion and related operation of an island, anchored platform or any other permanent structure on or along the sea bed, where the expansion will constitute an increased development footprint, excluding expansion of facilities, infrastructure or structures for aquaculture purposes;
66.	<p>The expansion of a dam where—</p> <ul style="list-style-type: none"> <li>(i) the highest part of the dam wall, as measured from the outside toe of the wall to the highest part of the wall, was originally 5 metres or higher and where the height of the wall is increased by 2,5 metres or more; or</li> </ul>



	<p>(ii) where the high-water mark of the dam will be increased with 10 hectares or more.</p>	
<p>67.</p>	<p>Phased activities for all activities—</p> <ul style="list-style-type: none"> <li>i. listed in this Notice, which commenced on or after the effective date of this Notice; or</li> <li>ii. similarly listed in any of the previous NEMA notices, which commenced on or after the effective date of such previous NEMA Notices;</li> </ul> <p>where any phase of the activity may be below a threshold but where a combination of the phases, including expansions or extensions, will exceed a specified threshold;</p> <p>excluding the following activities listed in this Notice—</p> <ul style="list-style-type: none"> <li>17(i)(a-d);</li> <li>17(ii)(a-d);</li> <li>17(iii)(a-d);</li> <li>17(iv)(a-d);</li> <li>17(v)(a-d);</li> <li>20;</li> <li>21;</li> <li>22;</li> <li>24(i);</li> <li>29;</li> <li>30;</li> <li>31;</li> <li>32;</li> </ul>	



No. R. 984

4 December 2014

**NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998  
(ACT NO. 107 OF 1998)**

**LISTING NOTICE 2: LIST OF ACTIVITIES AND COMPETENT AUTHORITIES  
IDENTIFIED IN TERMS OF SECTIONS 24(2) AND 24D**

I, Bomo Edith Edna Molewa, Minister of Environmental Affairs, hereby repeal Listing Notice 2 of 2010, published under Notice No. 545 in Gazette No. 33306 dated 18 June 2010, and publish Listing Notice 2 of 2014 under sections 24(2), 24(5), 24D and 44, read with section 47A (1)(b) of the National Environmental Management Act, 1998 (Act No. 107 of 1998), set out in the Schedule hereto.

  
**BOMO EDITH EDNA MOLEWA  
MINISTER OF ENVIRONMENTAL AFFAIRS**

## SCHEDULE

### PURPOSE

1. The purpose of this Notice is to identify activities that would require an environmental authorisation prior to the commencement of that activity and to identify competent authorities in terms of sections 24(2) and 24D of this Act.

### DEFINITIONS

2. (1) In this Notice, any word or expression to which a meaning has been assigned in the Act shall have the meaning so assigned, and unless the context otherwise indicates —

**“associated structures, infrastructure and earthworks”** means any structures, infrastructure or earthworks, including borrow pits, that is necessary for the functioning of a facility or activity;

**“channel”** means an excavated hollow bed for running water or an artificial underwater depression to make a water body navigable in a natural watercourse, river or the sea;

**“dam”** when used in these Regulations means any barrier dam and any other form of impoundment used for the storage of water;

**“dangerous goods”** means goods containing any of the substances as contemplated in South African National Standard No. 10234, supplement 2008 1.00: designated “List of classification and labelling of chemicals in accordance with the Globally Harmonized Systems (GHS)” published by Standards South Africa, and where the presence of such goods, regardless of quantity, in a blend or mixture, causes such blend or mixture to have one or more of the characteristics listed in the Hazard Statements in section 4.2.3, namely physical hazards, health hazards or environmental hazards;

**“development”** means 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, including any

associated post development monitoring, 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”** means any evidence of physical alteration as a result of the undertaking of any activity;

**“development setback”** means a setback line defined or adopted by the competent authority;

**“expansion”** means the modification, extension, alteration or upgrading of a facility, structure or infrastructure at which an activity takes place in such a manner that the capacity of the facility or the footprint of the activity is increased;

**“indigenous vegetation”** refers to vegetation consisting of indigenous plant species occurring naturally in an area, regardless of the level of alien infestation and where the topsoil has not been lawfully disturbed during the preceding ten years;

**“industrial complex”** means an area used or zoned for industrial purposes, including bulk storage, manufacturing, processing or packaging purposes;

**“linear development activities”** include railways, roads, funiculars, pipelines, conveyor belts, cableways, powerlines, fences, runways, aircraft landing strips, and telecommunication lines;

**“maintenance”** means actions performed to keep a structure or system functioning or in service on the same location, capacity and footprint;

**“maintenance management plan”** means a management plan for maintenance purposes defined or adopted by the competent authority;

“**marina**” means a constructed waterway that is normally associated with residential or commercial use and that could include mooring facilities;

“**route determination**” means the process of planning and designing a new route;

“**the Act**” means the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended;

“**throughput capacity**” means the design capacity or maximum capable capacity of a facility, structures or infrastructure, whichever is the greater;

“**urban areas**” means areas situated within the urban edge (as defined or adopted by the competent authority), or in instances where no urban edge or boundary has been defined or adopted, it refers to areas situated within the edge of built-up areas;

“**virgin soil**” means land not cultivated for the preceding 10 years.

“**watercourse**” means –

- (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
- (d) 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; and

“**wetland**” means land which is transitional between terrestrial and aquatic systems where the water table is usually at or near the surface, or the land is periodically covered with shallow water, and which land in normal circumstances supports or would support vegetation typically adapted to life in saturated soil.



- (2) The following words relevant to coastal activities will have the meaning so assigned to it in the National Environmental Management: Integrated Coastal Management Act, 2008 (Act No. 24 of 2008):
- (a) “estuary”;
  - (b) “high-water mark”;
  - (c) “littoral active zone”;
  - (d) “low-water mark”; and
  - (e) “sea”.
- (3) The following words will have the meaning so assigned in terms of section 1 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002):
- (a) “exploration right”;
  - (b) “mine”;
  - (c) “mineral”;
  - (d) “mining area”;
  - (e) “mining right”;
  - (f) “petroleum”;
  - (g) “production right”; and
  - (h) “prospecting right”.

### **IDENTIFIED ACTIVITIES AND COMPETENT AUTHORITIES**

3. (1) The activities identified in Appendix 1 may not commence without environmental authorisation from the competent authority.

- (2) The investigation, assessment and communication of the potential impact of activities must follow the procedure as prescribed in regulations 21, 22, 23 and 24 of the Environmental Impact Assessment Regulations, 2014.
- (3) Where Listing Notice 4 applies, an application for environmental authorisation must be submitted for an activity contemplated in that Notice and not for an activity contemplated in this Notice.

#### **REPEAL OF NOTICE 545 DATED 18 JUNE 2010**

4. Notice 545 published in Gazette 33306 is hereby repealed.

#### **SHORT TITLE**

5. This Listing Notice is called the Environmental Impact Assessment Regulations Listing Notice 2 of 2014, and takes effect on 08 December 2014.

## APPENDIX 1

Activity number	Activity description	Identification of competent authority
1.	The development of facilities or infrastructure for the generation of electricity from a renewable resource where the electricity output is 20 megawatts or more, excluding where such development of facilities or infrastructure is for photovoltaic installations and occurs within an urban area.	The competent authority in respect of the activities listed in this part of the schedule is the competent authority in the province in which the activity is to be undertaken, unless—
2.	The development and related operation of facilities or infrastructure for the generation of electricity from a non-renewable resource where the electricity output is 20 megawatts or more.	(a) it is an application for an activity contemplated in section 24C(2) of the Act, in which case the competent authority is the Minister or an organ of state with delegated powers in terms of section 42(1) of the Act;
3.	The development and related operation of facilities or infrastructure for nuclear reaction including energy generation, the production, enrichment, processing, reprocessing, storage or disposal of nuclear fuels, radioactive products, nuclear waste or radioactive waste.	(b) the listed or specified activity is or is directly related to—
4.	The development of facilities or infrastructure, for the storage, or storage and handling of a dangerous good, where such storage occurs in containers with a combined capacity of more than 500 cubic metres.	i. prospecting or exploration of a mineral or petroleum resource; or
5.	The development and related operation of facilities or infrastructure for the refining, extraction or processing of gas, oil or petroleum products with an installed capacity of 50 cubic metres or more per day, excluding— (i) facilities for the refining, extraction or processing of gas from landfill sites; or (ii) the primary processing of a petroleum resource in which case activity 22 in this Notice applies.	

<p>6.</p>	<p>The development of facilities or infrastructure for any process or activity which requires a permit or licence in terms of national or provincial legislation governing the generation or release of emissions, pollution or effluent, excluding—</p> <p>(i) activities which are identified and included in Listing Notice 1 of 2014;</p> <p>(ii) activities which are included in the list of waste management activities published in terms of section 19 of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) in which case the National Environmental Management: Waste Act, 2008 applies; or</p> <p>(iii) the development of facilities or infrastructure for the treatment of effluent, wastewater or sewage where such facilities have a daily throughput capacity of 2000 cubic metres or less.</p>	<p>ii. extraction and primary processing of a mineral or petroleum resource; in which case the competent authority is the Minister responsible for mineral resources.</p> <p>The exception mentioned in (b) above does not apply to the following activities contained in this Notice:</p>
<p>7.</p>	<p>The development and related operation of facilities or infrastructure for the bulk transportation of dangerous goods—</p> <p>(i) in gas form, outside an industrial complex, using pipelines, exceeding 1000 metres in length, with a throughput capacity of more than 700 tons per day;</p> <p>(ii) in liquid form, outside an industrial complex, using pipelines, exceeding 1000 metres in length, with a throughput capacity of more than 50 cubic metres per day; or</p> <p>(iii) in solid form, outside an industrial complex, using funiculars or conveyors with a throughput capacity of more than 50 tons day.</p>	<p>3;</p> <p>8(f);</p> <p>10;</p> <p>13;</p> <p>26;</p> <p>27; and</p>

29.

8.	<p>The development of—</p> <ul style="list-style-type: none"> <li>(i) airports, or</li> <li>(ii) runways or aircraft landing strips longer than 1,4 kilometres.</li> </ul>
9.	<p>The development of facilities or infrastructure for the transmission and distribution of electricity with a capacity of 275 kilovolts or more, outside an urban area or industrial complex.</p>
10.	<p>The development of facilities or infrastructure for marine telecommunication.</p>
11.	<p>The development of facilities or infrastructure for the transfer of 50 000 cubic metres or more water per day, from and to or between any combination of the following —</p> <ul style="list-style-type: none"> <li>(i) water catchments;</li> <li>(ii) water treatment works; or</li> <li>(iii) impoundments;</li> </ul> <p>excluding treatment works where water is to be treated for drinking purposes.</p>
12.	<p>The development of railway lines, stations or shunting yards excluding —</p> <ul style="list-style-type: none"> <li>(i) railway lines, shunting yards and railway stations in industrial complexes or zones;</li> <li>(ii) underground railway lines in a mining area; or</li> <li>(iii) additional railway lines within the railway line reserve.</li> </ul>
13.	<p>The physical alteration of virgin soil to agriculture, or afforestation for the purposes of commercial tree, timber or wood production of 100 hectares or more.</p>
14.	<p>The development and related operation of—</p> <ul style="list-style-type: none"> <li>(i) an island;</li> </ul>

	<p>(ii) anchored platform; or</p> <p>(iii) any other structure or infrastructure on, below or along the sea bed;</p> <p>excluding —</p> <p>(a) development of facilities, infrastructure or structures for aquaculture purposes; or</p> <p>(b) the development of temporary structures or infrastructure where such structures will be removed within 6 weeks of the commencement of development and where indigenous vegetation will not be cleared.</p>
15.	<p>The clearance of an area of 20 hectares or more of indigenous vegetation, excluding where such clearance of indigenous vegetation is required for—</p> <p>(i) the undertaking of a linear activity; or</p> <p>(ii) maintenance purposes undertaken in accordance with a maintenance management plan.</p>
16.	<p>The development of a dam where the highest part of the dam wall, as measured from the outside toe of the wall to the highest part of the wall, is 5 metres or higher or where the high-water mark of the dam covers an area of 10 hectares or more.</p>
17.	<p>Any activity including the operation of that activity which requires a mining right as contemplated in section 22 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002), including associated infrastructure, structures and earthworks, directly related to the extraction of a mineral resource, including activities for which an exemption has been issued in terms of section 106 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002).</p>



18.	Any activity including the operation of that activity which requires an exploration right as contemplated in section 79 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002), including associated infrastructure, structures and earthworks.
19.	The removal and disposal of minerals contemplated in terms of section 20 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002), including associated infrastructure, structures and earthworks, directly related to prospecting of a mineral resource, including activities for which an exemption has been issued in terms of section 106 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002).
20.	Any activity including the operation of that activity which requires a production right as contemplated in section 83 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002), including associated infrastructure, structures and earthworks, directly related to the primary processing of a petroleum resource.
21.	Any activity including the operation of that activity associated with the primary processing of a mineral resource including winning, reduction, extraction, classifying, concentrating, crushing, screening and washing but excluding the smelting, beneficiation, refining, calcining or gasification of the mineral resource in which case activity 6 in this Notice applies.
22.	Any activity including the operation of that activity associated with the primary processing of a petroleum resource including winning, extraction, classifying, concentrating, water removal, but excluding the refining of gas, oil or petroleum products in which case activity 5 in this Notice applies.
23.	The reclamation of an island or parts of the sea.

24.	The extraction or removal of peat or peat soils, including the disturbance of vegetation or soils in anticipation of the extraction or removal of peat or peat soils, but excluding where such extraction or removal is for the rehabilitation of wetlands in accordance with a maintenance management plan.	
25.	The development and related operation of facilities or infrastructure for the treatment of effluent, wastewater or sewage with a daily throughput capacity of 15000 cubic metres or more.	
26.	<p>Development--</p> <ul style="list-style-type: none"> <li>(i) in the sea;</li> <li>(ii) in an estuary;</li> <li>(iii) within the littoral active zone;</li> <li>(iv) in front of a development setback; or</li> <li>(v) if no development setback exists, within a distance of 100 metres inland of the high-water mark of the sea or an estuary, whichever is the greater;</li> </ul> <p>in respect of —</p> <ul style="list-style-type: none"> <li>(a) facilities associated with the arrival and departure of vessels and the handling of cargo;</li> <li>(b) piers;</li> <li>(c) inter- and sub-tidal structures for entrapment of sand;</li> <li>(d) breakwater structures;</li> <li>(e) coastal marinas;</li> <li>(f) coastal harbours or ports;</li> </ul>	

	<p>(g) tunnels; or (h) underwater channels; but excluding the development of structures within existing ports or harbours that will not increase the development footprint of the port or harbour.</p>	
27.	<p>The development of — (i) a national road as defined in section 40 of the South African National Roads Agency Limited and National Roads Act, 1998 (Act No. 7 of 1998); (ii) a road administered by a provincial authority; (iii) a road with a reserve wider than 30 metres; or (iv) a road catering for more than one lane of traffic in both directions; but excluding the development and related operation of a road for which an environmental authorisation was obtained for the route determination in terms of activity 5 in Government Notice 387 of 2006 or activity 18 in Government Notice 545 of 2010, in which case activity 24 in Listing Notice 1 of 2014 applies.</p>	
28.	<p>Commencing of an activity, which requires an atmospheric emission license in terms of section 21 of the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004), excluding — (i) activities which are identified and included in Listing Notice 1 of 2014; (ii) activities which are included in the list of waste management activities published in terms of section 19 of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) in which case the National Environmental Management: Waste Act,</p>	

	2008 applies; or (iii) the development of facilities or infrastructure for the treatment of effluent, wastewater or sewage where such facilities have a daily throughput capacity of 2000 cubic metres or less.	
29.	The expansion and related operation of facilities for nuclear reaction including energy generation, the production, enrichment, processing, reprocessing, storage or disposal of nuclear fuels, radioactive products, nuclear waste or radioactive waste.	

No. R. 985

4 December 2014

**NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998  
(ACT NO. 107 OF 1998)**

**LISTING NOTICE 3: LIST OF ACTIVITIES AND COMPETENT AUTHORITIES  
IDENTIFIED IN TERMS OF SECTIONS 24(2) AND 24D**

I, Bomo Edith Edna Molewa, Minister of Environmental Affairs, hereby repeal Listing Notice 3 of 2010, published under Notice No. 546 in Gazette No. 33306 dated 18 June 2010, and publish Listing Notice 3 of 2014 under sections 24(2), 24(5), 24D and 44, read with section 47A (1) (b) of the National Environmental Management Act, 1998 (Act No. 107 of 1998), set out in the Schedule hereto.



**BOMO EDITH EDNA MOLEWA  
MINISTER OF ENVIRONMENTAL AFFAIRS**

## SCHEDULE

### PURPOSE

1. The purpose of this Notice is to list activities and identify competent authorities under sections 24(2), 24(5) and 24D of the Act, where environmental authorisation is required prior to commencement of that activity in specific identified geographical areas only.

### DEFINITIONS

2. (1) In this Notice, any word or expression to which a meaning has been assigned in the Act shall have the meaning so assigned, and unless the context otherwise indicates—

**“aquatic critical biodiversity areas”** means linkages between catchment, important rivers and sensitive estuaries whose safeguarding is critically required in order to meet biodiversity pattern and process thresholds and are spatially defined as part of a bioregional plan or systematic biodiversity plan, available on the South African National Biodiversity Institute’s BGIS website (<http://bgis.sanbi.org/WCBF14/project.asp>);

**“bioregional plan”** means the bioregional plan contemplated in Chapter 3 of the National Environment Management Biodiversity Act, 2004 (Act No. 10 of 2004);

**“buffer area”** means, unless specifically defined, an area extending 10 kilometres from the proclaimed boundary of a world heritage site or national park and 5 kilometres from the proclaimed boundary of a nature reserve, respectively, or that defined as such for a biosphere;

**“dangerous goods”** means goods containing any of the substances as contemplated in South African National Standard No. 10234, supplement 2008 1.00: designated “List of classification and labelling of chemicals in



accordance with the Globally Harmonized Systems (GHS)” published by Standards South Africa, and where the presence of such goods, regardless of quantity, in a blend or mixture, causes such blend or mixture to have one or more of the characteristics listed in the Hazard Statements in section 4.2.3, namely physical hazards, health hazards or environmental hazards;

**“development”** means 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, including any associated post development monitoring 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”** means any evidence of physical alteration as a result of the undertaking of any activity;

**“development setback”** means a setback line defined or adopted by the competent authority;

**“estuarine functional zone”** means the area in and around an estuary which includes the open water area, estuarine habitat (*such as sand and mudflats, rock and plant communities*) and the surrounding floodplain area, as defined by the area below the 5 m topographical contour (*referenced from the indicative mean sea level*);

**“expansion”** means the modification, extension, alteration or upgrading of a facility, structure or infrastructure at which an activity takes place in such a manner that the capacity of the facility or the footprint of the activity is increased;

**“Gauteng Agricultural Potential Atlas”** means the Gauteng Agricultural Potential Atlas, which can be obtained from the Gauteng Provincial Department responsible for environmental affairs;

**“Gauteng Conservation Plan”** means a systematic conservation planning tool delineating biodiversity priority areas representative of biodiversity pattern, process and species of special concern, which areas have been identified in three broad categories; namely, Critical Biodiversity Areas (CBAs), Ecological Support Areas (ESAs) and Protected Areas;

**“Gauteng Protected Area Expansion Strategy”** means a framework for protected area expansion in Gauteng, setting out key strategies for protected area expansion and identifying spatial priorities and protected area targets and is aligned to the National Protected Area Expansion Strategy as it identifies finer scaled provincial priorities based on regional and local conservation imperatives;

**“Important Bird and Biodiversity Areas (IBA)”** means areas / sites that hold significant numbers of globally and/or regionally threatened species (Categories A1 and C1); sites that are known or thought to hold a significant component of a group of species whose breeding distributions define an Endemic Bird Area (EBA) (Category A2); sites that are known or thought to hold a significant component of a group of species whose distributions are largely or wholly confined to one biome (Category A3);

**“indigenous vegetation”** refers to vegetation consisting of indigenous plant species occurring naturally in an area, regardless of the level of alien infestation and where the topsoil has not been lawfully disturbed during the preceding ten years;

**“industrial complex”** means an area used or zoned for industrial purposes, including bulk storage, manufacturing, processing or packaging purposes;

**“maintenance”** means actions performed to keep a structure or system functioning or in service on the same location, capacity and footprint;

**“maintenance management plan”** means a management plan for maintenance purposes defined or adopted by the competent authority;

**“National Protected Area Expansion Strategy (NPAES)”** means South Africa's national strategy for expansion of the protected area network, led by the National Department responsible for environmental affairs and developed in collaboration with national and provincial conservation authorities. The NPAES sets targets for protected area expansion, provides maps of the most important areas for protected area expansion, and makes recommendations on mechanisms for protected area expansion. Focus areas for protected area expansion are identified in the NPAES. They are large, intact, unfragmented areas of high importance for land-based protected area expansion, suitable for the creation or expansion of large protected areas;

**“NEMBA”** means the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004);

**“NEMPAA”** means the National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003);

**“phased activities”** means an activity that is developed in phases over time on the same or adjacent properties to create a single or linked entity;

**“previous NEMA notices”** as contemplated in these transitional arrangements means the previous notices published in terms of section 24(2) of NEMA (Government Notices R. 386 and R. 387 in the Government Gazette of 21 April 2006, as amended, or Government Notice No. R. 544, 545 and 546 in the Government Gazette of 18 June 2010, as amended);

**“protected area”** means those protected areas contemplated in section 9 of the NEMPAA and the core area of a biosphere reserve and shall include their buffers;

**“sites or areas listed in terms of an International Convention”** means any area and its buffer, unless specifically defined, of 5 kilometres extending from its listed boundary, listed in terms of an international convention but does not include world heritage sites, and shall include but not be limited to the Ramsar Convention on Wetlands (Ramsar, Iran, 1971);

**“systematic biodiversity plan”** is a plan that identifies important areas for biodiversity conservation, taking into account biodiversity patterns (i.e. the principle of representation) and the ecological and evolutionary processes that sustain them (i.e. the principle of persistence). A systematic biodiversity plan must set quantitative targets/thresholds for aquatic and terrestrial biodiversity features in order to conserve a representative sample of biodiversity pattern and ecological processes;

**“the Act”** means the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended;

**“throughput capacity”** means the design capacity or maximum capable capacity of a facility, structures or infrastructure, whichever is the greater;

**“urban areas”** means areas situated within the urban edge (as defined or adopted by the competent authority), or in instances where no urban edge or boundary has been defined or adopted, it refers to areas situated within the edge of built-up areas;

**“watercourse”** means –

- (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

(d) 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;  
and

“**wetland**” means land which is transitional between terrestrial and aquatic systems where the water table is usually at or near the surface, or the land is periodically covered with shallow water, and which land in normal circumstances supports or would support vegetation typically adapted to life in saturated soil.

- (2) The following words relevant to coastal activities will have the meaning so assigned to it in the National Environmental Management: Integrated Coastal Management Act, 2008 (Act No. 24 of 2008):
- a) “estuary”;
  - b) “high-water mark”;
  - c) “littoral active zone”;
  - d) “sea”; and
  - e) “seashore”.
- (3) The following words will have the meaning assigned to them in terms of section 1 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002):
- a) “mineral”;
  - b) “petroleum”; and
  - c) “prospecting”.
3. (1) The activities listed in Appendix 1 are identified in terms of section 24(2)(a) of the Act as activities that may not commence without an environmental authorisation from the competent authority.

- (2) The investigation, assessment and communication of potential impact of activities must follow the procedure as prescribed in regulations 19 and 20 of the Environmental Impact Assessment Regulations published in terms of section 24(5) of the Act.
- (3) Where Listing Notice 4 applies, an application for environmental authorisation must be submitted for an activity contemplated in that Notice and not for an activity contemplated in this Notice.

#### **REPEAL OF NOTICE 546 OF 18 June 2010**

4. Notice No. 546 published in Gazette 33306 on 18 June 2010 is hereby repealed.

#### **SHORT TITLE**

5. This Listing Notice is called Environmental Impact Assessment Regulations Listing Notice 3 of 2014, and takes effect on 08 December 2014.



## APPENDIX 1

Activity number	Activity description	Geographical areas based on environmental attributes	Identification of competent authority
1.	The development of billboards exceeding 18 square metres in size outside urban areas, mining areas or industrial complexes.	<p>(a) In Free State, Limpopo, Mpumalanga and Northern Cape provinces:</p> <ul style="list-style-type: none"> <li>i. A protected area identified in terms of NEMPAA, excluding conservancies;</li> <li>ii. National Protected Area Expansion Strategy Focus areas;</li> <li>iii. World Heritage Sites;</li> <li>iv. Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</li> <li>v. Sites or areas identified in terms of an International Convention;</li> <li>vi. Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</li> <li>vii. Core areas in biosphere reserves;</li> <li>viii. Areas within 10 kilometres from national parks or world</li> </ul>	<p>The competent authority in respect of the activities listed in this part of the Notice is the competent authority in the province in which the activity is to be undertaken, unless—</p> <p>(a) it is an application for an activity contemplated in section 24C(2) of the Act, in which case the competent authority is the Minister or an organ of state with delegated powers in terms of section 42(1)</p>

	<p>heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core area of a biosphere reserve;</p> <p>ix. Areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined; or</p> <p>x. In an estuary.</p>	<p>of the Act;</p> <p>(b) the listed or specified activity is or is directly related to—</p> <p>i. prospecting or exploration of a mineral or petroleum resource; or</p> <p>ii. extraction and primary processing of a mineral or petroleum resource;</p> <p>in which case the competent authority is the Minister responsible for mineral resources.</p>
	<p><b>(b) In Eastern Cape</b></p> <p>i. A protected area identified in terms of NEMPAA, excluding conservancies;</p> <p>ii. National Protected Area Expansion Strategy Focus areas;</p> <p>iii. World Heritage Sites;</p> <p>iv. Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</p> <p>v. Sites or areas identified in terms of an International Convention;</p> <p>vi. Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</p>	

		The exception mentioned in (b) above does not apply to the following activities contained in this Notice:
vii. Core areas in biosphere reserves;		5;
viii. Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core area of a biosphere reserve;		6;
ix. Areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined; or		9;
x. In an estuarine functional zone.		11;
<b>(c) In Gauteng:</b>		13;
i. A protected area identified in terms of NEMPAA, excluding conservancies;		17;
ii. National Protected Area Expansion Strategy Focus Areas;		21;
iii. Gauteng Protected Area Expansion Priority Areas;		24;
iv. Sites identified as Critical Biodiversity Areas (CBAs) and Ecological Support Areas (ESAs) in the Gauteng Conservation Plan or in bioregional plans;		25; and
v. Sites identified within threatened ecosystems listed in terms of the National Environmental Management Act: Biodiversity Act (Act No. 10 of 2004);		26.
vi. Important Bird and Biodiversity Areas (IBA);		
vii. Sensitive areas identified in an environmental		

		<p>management framework adopted by relevant environmental authority;</p> <p>viii. Sites or areas identified in terms of an International Convention</p> <p>ix. Sites managed as protected areas by provincial authorities, or declared as nature reserves in terms of the Nature Conservation Ordinance (Ordinance 12 of 1983) or the National Environmental Management: Protected Areas Act (Act No. 57 of 2003);</p> <p>x. Sites designated as nature reserves within municipal SDFs; or</p> <p>xi. Sites zoned for conservation or public open space or equivalent zoning;</p> <p><b>(d) In KwaZulu-Natal:</b></p> <p>i. Trans-frontier protected areas managed under international conventions;</p> <p>ii. Community Conservation Areas;</p> <p>iii. Biodiversity Stewardship Programme Biodiversity Agreement areas;</p> <p>iv. A protected area identified in terms of NEMPAA, excluding conservancies;</p>	
--	--	---	--

		<p>v. World Heritage Sites;</p> <p>vi. Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</p> <p>vii. Sites or areas identified in terms of an International Convention;</p> <p>viii. Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</p> <p>ix. Core areas in biosphere reserves;</p> <p>x. In an estuarine functional zone;</p> <p>xi. Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority, or zoned for a conservation purpose;</p> <p>xii. Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core area of a biosphere reserve; or</p> <p>xiii. Areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined.</p>	
--	--	--	--

		<p><b>(e) In North West:</b></p> <ul style="list-style-type: none"> <li>i. National Protected Area Expansion Strategy Focus areas;</li> <li>ii. World Heritage Sites;</li> <li>iii. Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</li> <li>iv. Sites or areas identified in terms of an International Convention;</li> <li>v. Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</li> <li>vi. Core areas in biosphere reserves;</li> <li>vii. Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or a biosphere reserve, excluding areas where no indigenous vegetation will be cleared;</li> <li>viii. Any protected area including municipal or provincial nature reserves as contemplated by NEMPAA or other relevant</li> </ul>		
--	--	---	--	--

		<p>legislation; or</p> <p>ix. Areas designated for conservation use in adopted Spatial Development Frameworks, or zoned for a conservation purpose, within urban areas.</p> <p><b>(f) In Western Cape:</b></p> <p>i. All areas outside urban areas, mining areas or industrial complexes.</p>	
<p><b>2.</b></p>	<p>The development of reservoirs for bulk water supply with a capacity of more than 250 cubic metres.</p>	<p><b>(a) In Free State, Limpopo, Mpumalanga and Northern Cape provinces:</b></p> <p>i. In an estuary;</p> <p>ii. In a protected area identified in terms of NEMPAA, excluding conservancies;</p> <p>iii. Outside urban areas, in:</p> <p>(aa) National Protected Area Expansion Strategy Focus areas;</p> <p>(bb) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</p> <p>(cc) Sites or areas identified in terms of an International Convention;</p>	



	<p>(dd) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</p> <p>(ee) Core areas in biosphere reserves;</p> <p>(ff) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core area of a biosphere reserve; or</p> <p>(gg) Areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined; or</p> <p>iv. In urban areas:</p> <p>(aa) Areas zoned for use as public open space;</p> <p>(bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority, or zoned for a conservation purpose; or</p> <p>(cc) Areas seawards of the development setback line or within urban protected areas.</p>	
	<p><b>(b) In Eastern Cape:</b></p>	

	<ul style="list-style-type: none"> <li>i. In an estuarine functional zone;</li> <li>ii. In a protected area identified in terms of NEMPAA, excluding conservancies;</li> <li>iii. Outside urban areas, in:             <ul style="list-style-type: none"> <li>(aa) National Protected Area Expansion Strategy Focus areas;</li> <li>(bb) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</li> <li>(cc) Sites or areas identified in terms of an International Convention;</li> <li>(dd) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</li> <li>(ee) Core areas in biosphere reserves;</li> <li>(ff) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core area of a biosphere reserve; or</li> <li>(gg) Areas seawards of the development setback line</li> </ul> </li> </ul>	
--	--	--

<p>or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined; or</p> <p>iv. In urban areas:</p> <p>(aa) Areas zoned for use as public open space;</p> <p>(bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority, or zoned for a conservation purpose; or</p> <p>(cc) Areas seawards of the development setback line or within urban protected areas.</p>	<p>(c) <b>Gauteng:</b></p> <p>i. A protected area identified in terms of NEMPAA, excluding conservancies;</p> <p>ii. National Protected Area Expansion Strategy Focus Areas;</p> <p>iii. Gauteng Protected Area Expansion Priority Areas;</p> <p>iv. Sites identified as Critical Biodiversity Areas (CBAs) and Ecological Support Areas (ESAs) in the Gauteng Conservation Plan or in bioregional plans;</p> <p>v. Sites identified within threatened ecosystems listed in</p>
---	---

<p>terms of the National Environmental Management Act: Biodiversity Act (Act No. 10 of 2004);</p> <ul style="list-style-type: none"> <li>vi. Sensitive areas identified in an environmental management framework adopted by relevant environmental authority;</li> <li>vii. Sites or areas identified in terms of an International Convention;</li> <li>viii. Sites managed as protected areas by provincial authorities, or declared as nature reserves in terms of the Nature Conservation Ordinance (Ordinance 12 of 1983) or the National Environmental Management: Protected Areas Act (Act No. 57 of 2003);</li> <li>ix. Sites designated as nature reserves within municipal SDFs; or</li> <li>x. Sites zoned for a conservation or public open space or equivalent zoning.</li> </ul>	
<p><b>(d) In KwaZulu-Natal:</b></p> <ul style="list-style-type: none"> <li>i. Trans-frontier protected areas managed under international conventions;</li> <li>ii. Community Conservation Areas;</li> <li>iii. Biodiversity Stewardship Programme Biodiversity</li> </ul>	

	<p>Agreement areas;</p> <ul style="list-style-type: none"> <li>iv. World Heritage Sites;</li> <li>v. In an estuarine functional zone;</li> <li>vi. In a protected area identified in terms of NEMPAA, excluding conservancies;</li> <li>vii. Sites or areas identified in terms of an International Convention;</li> <li>viii. Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</li> <li>ix. Core areas in biosphere reserves;</li> <li>x. Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority, or zoned for a conservation purpose;</li> <li>xi. Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</li> <li>xii. Outside urban areas:             <ul style="list-style-type: none"> <li>(aa) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or</li> </ul> </li> </ul>	
--	--	--

	<p>from the core area of a biosphere reserve; or</p> <p>(bb) Areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined; or</p> <p>xiii. In urban areas:</p> <p>(aa) Areas zoned for use as public open space;</p> <p>(bb) Areas seawards of the development setback line or within 100 metres from the high-water mark of the sea if no such development setback line is determined; or</p> <p>(cc) Within urban protected areas.</p>	<p><b>(e) In North West:</b></p> <p>i. A protected area identified in terms of NEMPAA;</p> <p>ii. Outside urban areas, in:</p> <p>(aa) National Protected Area Expansion Strategy Focus areas;</p> <p>(bb) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the</p>
--	--	---

	<p>competent authority;</p> <p>(cc) Sites or areas identified in terms of an International Convention;</p> <p>(dd) Critical biodiversity areas (Type 1 and 2) as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</p> <p>(ee) Core areas in biosphere reserves; or</p> <p>(ff) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core area of a biosphere reserve; excluding areas where no indigenous vegetation will be cleared; or</p> <p>iii. In urban areas:</p> <p>(aa) Areas zoned for use as public open space; or</p> <p>(bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority, or zoned for a conservation purpose.</p>	
--	---	--



		<p><b>(f) In Western Cape:</b></p> <ul style="list-style-type: none"> <li>i. A protected area identified in terms of NEMPAA, excluding conservancies;</li> <li>ii. In areas containing indigenous vegetation; or</li> <li>iii. In urban areas:             <ul style="list-style-type: none"> <li>(aa) Areas zoned for use as public open space; or</li> <li>(bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority, or zoned for a conservation purpose.</li> </ul> </li> </ul>	
<p>3.</p>	<p>The development of masts or towers of any material or type used for telecommunication broadcasting or radio transmission purposes where the mast or tower—</p> <ul style="list-style-type: none"> <li>(a) is to be placed on a site not previously used for this purpose; and</li> <li>(b) will exceed 15 metres in</li> </ul>	<p><b>(a) In Free State, Limpopo, Mpumalanga and Northern Cape provinces:</b></p> <ul style="list-style-type: none"> <li>i. In an estuary;</li> <li>ii. Outside urban areas,             <ul style="list-style-type: none"> <li>(aa) A protected area identified in terms of NEMPAA, excluding conservancies;</li> <li>(bb) National Protected Area Expansion Strategy Focus areas;</li> <li>(cc) Sensitive areas as identified in an environmental management framework as contemplated in</li> </ul> </li> </ul>	

	<p>height—  but excluding attachments to existing buildings and masts on rooftops.</p>	<p>chapter 5 of the Act and as adopted by the competent authority;</p> <p>(dd) Sites or areas identified in terms of an International Convention;</p> <p>(ee) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</p> <p>(ff) Core areas in biosphere reserves;</p> <p>(gg) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core areas of a biosphere reserve; or</p> <p>(hh) Areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined; or</p> <p>iii. Inside urban areas; in:</p> <p>(aa) Areas zoned for use as public open space; or</p> <p>(bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation</p>
--	--	--

	<p>purpose.</p>	
	<p><b>(b) In Eastern Cape:</b></p> <ul style="list-style-type: none"> <li>i. In an estuarine functional zone;</li> <li>ii. Outside urban areas,             <ul style="list-style-type: none"> <li>(aa) A protected area identified in terms of NEMPAA, excluding conservancies;</li> <li>(bb) National Protected Area Expansion Strategy Focus areas;</li> <li>(cc) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</li> <li>(dd) Sites or areas identified in terms of an International Convention;</li> <li>(ee) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</li> <li>(ff) Core areas in biosphere reserves;</li> <li>(gg) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or</li> </ul> </li> </ul>	

	<p>from the core areas of a biosphere reserve; or</p> <p>(hh) Areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined; or</p> <p>iii. Inside urban areas; in:</p> <p>(aa) Areas zoned for use as public open space; or</p> <p>(bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose.</p>	
	<p><b>(c) In Gauteng:</b></p> <p>i. A protected area identified in terms of NEMPAA, excluding conservancies;</p> <p>ii. National Protected Area Expansion Strategy Focus Areas;</p> <p>iii. Gauteng Protected Area Expansion Priority Areas;</p> <p>iv. Sites identified as Critical Biodiversity Areas (CBAs) and Ecological Support Areas (ESAs) in the Gauteng Conservation Plan or in bioregional plans;</p> <p>v. Sites identified within threatened ecosystems listed in</p>	

	<p>terms of the National Environmental Management Act: Biodiversity Act (Act No. 10 of 2004);</p> <ul style="list-style-type: none"> <li>vi. Sensitive areas identified in an environmental management framework adopted by relevant environmental authority;</li> <li>vii. Sites or areas identified in terms of an International Convention;</li> <li>viii. Sites managed as protected areas by provincial authorities, or declared as nature reserves in terms of the Nature Conservation Ordinance (Ordinance 12 of 1983) or the National Environmental Management: Protected Areas Act (Act No. 57 of 2003);</li> <li>ix. Sites designated as nature reserves within municipal SDFs;</li> <li>x. Sites zoned for a conservation or public open space or equivalent zoning; or</li> <li>xi. Important Bird and Biodiversity Areas.</li> </ul>	<p><b>(d) In KwaZulu-Natal:</b></p> <ul style="list-style-type: none"> <li>i. In an estuarine functional zone;</li> <li>ii. Trans-frontier protected areas managed under international conventions;</li> </ul>
--	---	--

		<ul style="list-style-type: none"> <li>iii. Community Conservation Areas;</li> <li>iv. World Heritage Sites;</li> <li>v. Biodiversity Stewardship Programme Biodiversity Agreement areas;</li> <li>vi. A protected area identified in terms of NEMPAA, excluding conservancies;</li> <li>vii. Sites or areas identified in terms of an International Convention;</li> <li>viii. Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</li> <li>ix. Core areas in biosphere reserves;</li> <li>x. Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose;</li> <li>xi. Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</li> <li>xii. Outside urban areas: <ul style="list-style-type: none"> <li>(aa) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other</li> </ul> </li> </ul>	
--	--	--	--

	<p>protected area identified in terms of NEMPAA or from the core areas of a biosphere reserve; or</p> <p>(bb) Areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined; or</p> <p>xiii. In urban areas:</p> <p>(aa) Areas seawards of the development setback line or within 100 metres from the high-water mark of the sea if no such development setback line is determined;</p> <p>(bb) Within urban protected areas;</p> <p>(cc) Areas zoned for use as public open space; or</p> <p>(dd) Areas within 1 kilometre from protected areas identified in terms of NEMPAA .</p>	
	<p><b>(e) In North West:</b></p> <p>i. Outside urban areas, in:</p> <p>(aa) A protected area identified in terms of NEMPAA,;</p> <p>(bb) National Protected Area Expansion Strategy Focus areas;</p>	



		<p>(cc) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</p> <p>(dd) Sites or areas identified in terms of an International Convention;</p> <p>(ee) Critical biodiversity areas (Type 1 and 2) as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</p> <p>(ff) Core areas in biosphere reserves; or</p> <p>(gg) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or a biosphere reserve, excluding areas where no indigenous vegetation will be cleared; or</p> <p>ii. In urban areas, the following:</p> <p>(aa) Areas designated for conservation use in adopted Spatial Development Frameworks, or zoned for a conservation purpose.</p>		
--	--	---	--	--

		<p><b>(f) In Western Cape:</b></p> <ul style="list-style-type: none"> <li>i. All areas outside urban areas; or</li> <li>ii. Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority, or zoned for a conservation purpose, within urban areas.</li> </ul>	
<p><b>4.</b></p>	<p>The development of a road wider than 4 metres with a reserve less than 13,5 metres.</p>	<p><b>(a) In Free State, Limpopo, Mpumalanga and Northern Cape provinces:</b></p> <ul style="list-style-type: none"> <li>i. In an estuary;</li> <li>ii. Outside urban areas, in: <ul style="list-style-type: none"> <li>(aa) A protected area identified in terms of NEMPAA, excluding disturbed areas;</li> <li>(bb) National Protected Area Expansion Strategy Focus areas;</li> <li>(cc) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</li> <li>(dd) Sites or areas identified in terms of an International Convention;</li> <li>(ee) Critical biodiversity areas as identified in</li> </ul> </li> </ul>	

	<p>systematic biodiversity plans adopted by the competent authority or in bioregional plans;</p> <p>(ff) Core areas in biosphere reserves;</p> <p>(gg) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core areas of a biosphere reserve, excluding disturbed areas; or</p> <p>(hh) Areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined; or</p> <p>iii. In urban areas:</p> <p>(aa) Areas zoned for use as public open space;</p> <p>(bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose; or</p> <p>(cc) Seawards of the development setback line or within urban protected areas.</p>	<p><b>(b) In Eastern Cape:</b></p>
--	--	------------------------------------

	<p>i. In an estuarine functional zone;</p> <p>ii. Outside urban areas, in:</p> <p>(aa) A protected area identified in terms of NEMPAA, excluding disturbed areas;</p> <p>(bb) National Protected Area Expansion Strategy Focus areas;</p> <p>(cc) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</p> <p>(dd) Sites or areas identified in terms of an International Convention;</p> <p>(ee) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</p> <p>(ff) Core areas in biosphere reserves;</p> <p>(gg) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core areas of a biosphere reserve, excluding disturbed areas; or</p>	
--	---	--

	<p>(hh) Areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined; or</p> <p>iii. In urban areas:</p> <p>(aa) Areas zoned for use as public open space;</p> <p>(bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose; or</p> <p>(cc) Seawards of the development setback line or within urban protected areas.</p>	
	<p><b>(c) In Gauteng:</b></p> <p>i. A protected area identified in terms of NEMPAA, excluding conservancies;</p> <p>ii. National Protected Area Expansion Strategy Focus Areas;</p> <p>iii. Gauteng Protected Area Expansion Priority Areas;</p> <p>iv. Sites identified as Critical Biodiversity Areas (CBAs) and Ecological Support Areas (ESAs) in the Gauteng Conservation Plan or in bioregional plans;</p> <p>v. Sites identified within threatened ecosystems listed in</p>	

	<p>terms of the National Environmental Management Act: Biodiversity Act (Act No. 10 of 2004);</p> <ul style="list-style-type: none"> <li>vi. Sensitive areas identified in an environmental management framework adopted by relevant environmental authority;</li> <li>vii. Sites identified as high potential agricultural land in terms of Gauteng Agricultural Potential Atlas;</li> <li>viii. Important Bird and Biodiversity Area (IBA);</li> <li>ix. Sites or areas identified in terms of an International Convention;</li> <li>x. Sites managed as protected areas by provincial authorities, or declared as nature reserves in terms of the Nature Conservation Ordinance (Ordinance 12 of 1983) or the National Environmental Management: Protected Areas Act (Act No. 57 of 2003);</li> <li>xi. Sites designated as nature reserves within municipal SDFs; or</li> <li>xii. Sites zoned for a conservation or public open space or equivalent zoning.</li> </ul>	
	<p><b>(d) In KwaZulu-Natal:</b></p> <ul style="list-style-type: none"> <li>i. In an estuarine functional zone;</li> </ul>	

		<ul style="list-style-type: none"> <li>ii. Trans- frontier protected areas managed under international conventions;</li> <li>iii. Community Conservation Areas;</li> <li>iv. Biodiversity Stewardship Programme Biodiversity Agreement areas;</li> <li>v. World Heritage Sites;</li> <li>vi. A protected area identified in terms of NEMPAA;</li> <li>vii. Sites or areas identified in terms of an International Convention;</li> <li>viii. Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</li> <li>ix. Core areas in biosphere reserves;</li> <li>x. Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose;</li> <li>xi. Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</li> <li>xii. Outside urban areas:             <ul style="list-style-type: none"> <li>(aa) Areas within 10 kilometres from national parks or</li> </ul> </li> </ul>	
--	--	---	--



	<p>world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core areas of a biosphere reserve; or</p> <p>(bb) Areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined; or</p> <p>xiii. In urban areas:</p> <p>(aa) Areas zoned for use as public open space;</p> <p>(bb) Seawards of the development setback line or within 100 metres from the high-water mark of the sea if no such development setback line is determined; or</p> <p>(cc) Within urban protected areas:</p>	
	<p><b>(e) In North West :</b></p> <p>i. Outside urban areas, in:</p> <p>(aa) A protected area identified in terms of NEMPAA;</p> <p>(bb) National Protected Area Expansion Strategy Focus areas;</p> <p>(cc) Sensitive areas as identified in an environmental</p>	

		<p>management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</p> <p>(dd) Sites or areas identified in terms of an International Convention;</p> <p>(ee) Critical biodiversity areas (Terrestrial Type 1 and 2) as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</p> <p>(ff) Core areas in biosphere reserves; or</p> <p>(gg) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from a biosphere reserve; or</p> <p>ii. In urban areas:</p> <p>(aa) Areas zoned for use as public open space;</p> <p>(bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose; or</p> <p>(cc) Natural heritage sites.</p>		
--	--	---	--	--

		<p><b>(f) In Western Cape:</b></p> <ul style="list-style-type: none"> <li>i. Areas outside urban areas;             <ul style="list-style-type: none"> <li>(aa) Areas containing indigenous vegetation;</li> <li>(bb) Areas on the estuary side of the development setback line or in an estuarine functional zone where no such setback line has been determined;</li> </ul> </li> <li>or</li> <li>ii. In urban areas:             <ul style="list-style-type: none"> <li>(cc) Areas zoned for conservation use; or</li> <li>(dd) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority.</li> </ul> </li> </ul>	
<p><b>5.</b></p>	<p>The development of resorts, lodges, hotels and tourism or hospitality facilities that sleep less than 15 people.</p>	<ul style="list-style-type: none"> <li>(a) A protected area identified in terms of the NEMPAA;</li> <li>(b) Outside urban areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core area of a biosphere reserve;</li> <li>(c) <b>In Free State, Limpopo, Mpumalanga and Northern Cape provinces:</b> <ul style="list-style-type: none"> <li>i. In an estuary;</li> </ul> </li> </ul>	

	<p>ii. Outside urban areas, in:</p> <ul style="list-style-type: none"> <li>(aa) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</li> <li>(bb) Areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined; or</li> <li>(cc) Areas within 100 metres of a watercourse or wetland; or</li> </ul> <p>iii. In urban areas:</p> <ul style="list-style-type: none"> <li>(aa) Areas zoned for use as public open space; or</li> <li>(bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose.</li> </ul>	<p>(d) In Eastern Cape:</p> <ul style="list-style-type: none"> <li>i. In an estuarine functional zone;</li> <li>ii. Outside urban areas, in: <ul style="list-style-type: none"> <li>(aa) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the</li> </ul> </li> </ul>
--	--	---

	<p>competent authority or in bioregional plans;</p> <p>(bb) Areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined; or</p> <p>(cc) Areas within 100 metres of a watercourse or wetland; or</p> <p>iii. In urban areas:</p> <p>(aa) Areas zoned for use as public open space; or</p> <p>(bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose.</p>	
	<p><b>(e) In Gauteng:</b></p> <p>i. A protected area identified in terms of NEMPAA, excluding conservancies;</p> <p>ii. Gauteng Protected Area Expansion Priority Areas;</p> <p>iii. Sites identified as Critical Biodiversity Areas (CBAs) and Ecological Support Areas (ESAs) in the Gauteng Conservation Plan or in bioregional plans;</p> <p>iv. Sensitive areas identified in an environmental</p>	

CONTINUES ON PAGE 162—PART 2



# Government Gazette Staatskoerant

REPUBLIC OF SOUTH AFRICA  
REPUBLIEK VAN SUID-AFRIKA

*Regulation Gazette*

**No. 10328**

*Regulasiekoerant*

**Vol. 594**

**Pretoria, 4 December 2014**

**No. 38282**

**PART 2 OF 2**

*N.B. The Government Printing Works will not be held responsible for the quality of "Hard Copies" or "Electronic Files" submitted for publication purposes*



9771682584003



**AIDS HELPLINE: 0800-0123-22 Prevention is the cure**

	<p>management framework adopted by relevant environmental authority;</p> <p>v. Sites or areas identified in terms of an International Convention</p> <p>vi. Sites managed as protected areas by provincial authorities, or declared as nature reserves in terms of the Nature Conservation Ordinance (Ordinance 12 of 1983) or the National Environmental Management: Protected Areas Act (Act No. 57 of 2003);</p> <p>vii. Important Bird and Biodiversity Area (IBA);</p> <p>viii. Sites identified as high potential agricultural land in terms of Gauteng Agricultural Potential Atlas;</p> <p>ix. Sites designated as nature reserves within municipal SDFs; or</p> <p>x. Sites zoned for a conservation or public open space or equivalent zoning.</p>	<p>(f) <b>KwaZulu-Natal:</b></p> <p>i. Trans-frontier protected areas managed under international conventions;</p> <p>ii. Community Conservation Areas;</p> <p>iii. Biodiversity Stewardship Programme Biodiversity</p>
--	--	---



		<p>Agreement areas;</p> <p>iv. Provincial Protected Area Expansion Strategy Focus areas;</p> <p>v. In an estuarine functional zone;</p> <p>vi. World Heritage Sites;</p> <p>vii. A protected area identified in terms of NEMPAA;</p> <p>viii. Sites or areas identified in terms of an International Convention;</p> <p>ix. Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</p> <p>x. Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</p> <p>xi. Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose;</p> <p>xii. Outside urban areas:</p> <p>(aa) Areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is</p>		
--	--	--	--	--

	<p>determined; or</p> <p>(bb) Areas within 100 metres of a watercourse or wetland; or</p> <p>xiii. In urban areas:</p> <p>(aa) Areas zoned for use as public open space; or</p> <p>(bb) Areas seawards of the development setback line or within 100m from the high-water mark of the sea if no such development setback line is determined.</p>	<p><b>(g) In North West :</b></p> <p>i. Any protected area including municipal or provincial nature reserves as contemplated by NEMPAA or other relevant legislation;</p> <p>ii. Natural Heritage sites;</p> <p>iii. Outside urban areas, in:</p> <p>(aa) Critical biodiversity areas (Terrestrial Type 1 and 2) as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans; or</p> <p>(bb) Areas on the watercourse side of the development</p>
--	--	---

<p>setback line or within 100 metres from the edge of a watercourse where no such setback line has been determined; or</p> <p>iv. In urban areas:</p> <p>(aa) Areas zoned for use as public open space; or</p> <p>(bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose.</p>	<p><b>(h) In Western Cape:</b></p> <p>i. Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</p> <p>ii. Outside urban areas, in:</p> <p>(aa) Areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined;</p> <p>(bb) Areas on the watercourse side of the development setback line or within 100 metres from the edge of a watercourse where no such setback line has</p>

		<p>been determined; or</p> <p>(cc) Areas on the estuary side of the development setback line or within an estuarine functional zone where no such setback line has been determined.</p>	
<p>6.</p>	<p>The development of resorts, lodges, hotels and tourism or hospitality facilities that sleeps 15 people or more.</p>	<p>(a) In Free State, Limpopo, Mpumalanga and Northern Cape provinces:</p> <ul style="list-style-type: none"> <li>i. In an estuary;</li> <li>ii. Outside urban areas, in:             <ul style="list-style-type: none"> <li>(aa) A protected area identified in terms of NEMPAA, excluding conservancies;</li> <li>(bb) National Protected Area Expansion Strategy Focus areas;</li> <li>(cc) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</li> <li>(dd) Sites or areas identified in terms of an International Convention;</li> <li>(ee) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</li> </ul> </li> </ul>	

	<p>(ff) Core areas in biosphere reserves;</p> <p>(gg) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core area of a biosphere reserve;</p> <p>(hh) Areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined; or</p> <p>(ii) Areas on the watercourse side of the development setback line or within 100 metres from the edge of a watercourse where no such setback line has been determined; or</p> <p>iii. In urban areas, the following:</p> <p>(aa) Areas zoned for use as public open space; or</p> <p>(bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose.</p> <p><b>(b) In Eastern Cape:</b></p> <p>i. In an estuarine functional zone;</p>	
--	--	--

	<p>ii. Outside urban areas, in:</p> <ul style="list-style-type: none"> <li>(aa) A protected area identified in terms of NEMPAA, excluding conservancies;</li> <li>(bb) National Protected Area Expansion Strategy Focus areas;</li> <li>(cc) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</li> <li>(dd) Sites or areas identified in terms of an International Convention;</li> <li>(ee) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</li> <li>(ff) Core areas in biosphere reserves;</li> <li>(gg) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core area of a biosphere reserve;</li> <li>(hh) Areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is</li> </ul>	
--	--	--

	<p>determined; or</p> <p>(ii) Areas on the watercourse side of the development setback line or within 100 metres from the edge of a watercourse where no such setback line has been determined; or</p> <p>iii. In urban areas, the following:</p> <p>(aa) Areas zoned for use as public open space; or</p> <p>(bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose.</p>	
	<p><b>(c) In Gauteng:</b></p> <p>(i) A protected area identified in terms of NEMPAA, excluding conservancies;</p> <p>(ii) National Protected Area Expansion Strategy Focus Areas;</p> <p>(iii) Gauteng Protected Area Expansion Priority Areas;</p> <p>(iv) Sites identified as Critical Biodiversity Areas (CBAs) and Ecological Support Areas (ESAs) in the Gauteng Conservation Plan or in bioregional plans;</p> <p>(v) Sites identified within threatened ecosystems listed in</p>	



	<p>terms of the National Environmental Management Act: Biodiversity Act (Act No. 10 of 2004);</p> <p>(vi) Sensitive areas identified in an environmental management framework adopted by relevant environmental authority;</p> <p>(vii) Sites or areas identified in terms of an International Convention;</p> <p>(viii) Sites identified as high potential agricultural land in terms of Gauteng Agricultural Potential Atlas;</p> <p>(ix) Important Bird and Biodiversity Area (IBA);</p> <p>(x) Sites managed as protected areas by provincial authorities, or declared as nature reserves in terms of the Nature Conservation Ordinance (Ordinance 12 of 1983) or the National Environmental Management: Protected Areas Act (Act No. 57 of 2003);</p> <p>(xi) Sites designated as nature reserves within municipal SDFs; or</p> <p>(xii) Sites zoned for a conservation or public open space or equivalent zoning.</p>	<p>(d) In KwaZulu-Natal:</p> <p>i. In an estuarine functional zone;</p>
--	---	---

		<ul style="list-style-type: none"> <li>ii. Trans-frontier protected areas managed under international conventions;</li> <li>iii. Community Conservation Areas;</li> <li>iv. Biodiversity Stewardship Programme Biodiversity Agreement areas;</li> <li>v. A protected area identified in terms of NEMPAA, excluding conservancies;</li> <li>vi. Sites or areas identified in terms of an International Convention;</li> <li>vii. Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</li> <li>viii. Core areas in biosphere reserves;</li> <li>ix. World Heritage Sites;</li> <li>x. Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose;</li> <li>xi. Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</li> <li>xii. Outside urban areas:</li> </ul>	
--	--	---	--

	<p>(aa) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core area of a biosphere reserve;</p> <p>(bb) Areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined; or</p> <p>(cc) Areas within 100 metres from the edge of a watercourse; or</p> <p>xiii. In urban areas:</p> <p>(aa) Areas zoned for use as public open space;</p> <p>(bb) Areas seawards of the development setback line or within 100m from the high-water mark of the sea if no such development setback line is determined; or</p> <p>(cc) Areas within 500 metres from protected areas identified in terms of NEMPAA.</p>	<p>(e) <b>In North West :</b></p> <p>(i) Any protected area including municipal or provincial nature reserves as contemplated by NEMPAA or other</p>
--	---	--

		<p>relevant legislation;</p> <p>(ii) Natural Heritage sites;</p> <p>(iii) Outside urban areas, in:</p> <p>(aa) Critical biodiversity areas (Terrestrial Type 1 and 2) as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans; or</p> <p>(bb) Areas on the watercourse side of the development setback line or within 100 metres from the edge of a watercourse where no such setback line has been determined; or</p> <p>(iv) In urban areas:</p> <p>(aa) Areas zoned for use as public open space; or</p> <p>(bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose.</p>		
--	--	---	--	--

		<p><b>(f) In Western Cape:</b></p> <ul style="list-style-type: none"> <li>i. All areas outside urban areas; or</li> <li>ii. Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans.</li> </ul>	
7.	The development of aircraft landing strips and runways 1.4 kilometres and shorter.	<p><b>(a) In Free State, Limpopo, Mpumalanga and Northern Cape provinces:</b></p> <ul style="list-style-type: none"> <li>i. In an estuary;</li> <li>ii. Outside urban areas, in: <ul style="list-style-type: none"> <li>(aa) A protected area identified in terms of NEMPAA, excluding conservancies;</li> <li>(bb) National Protected Area Expansion Strategy Focus areas;</li> <li>(cc) World Heritage Sites;</li> <li>(dd) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</li> <li>(ee) Sites or areas identified in terms of an International Convention;</li> <li>(ff) Critical biodiversity areas as identified in</li> </ul> </li> </ul>	

	<p>systematic biodiversity plans adopted by the competent authority or in bioregional plans;</p> <p>(gg) Core areas in biosphere reserves;</p> <p>(hh) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core of a biosphere reserve;</p> <p>(ii) Areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined; or</p> <p>(ji) Areas on the watercourse side of the development setback line or within 100 metres from the edge of a watercourse where no such setback line has been determined; or</p> <p>iii. In urban areas:</p> <p>(aa) Areas zoned for use as public open space; or</p> <p>(bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose.</p>	
--	---	--

		<p><b>(b) In Eastern Cape:</b></p> <ul style="list-style-type: none"> <li>i. In an estuarine functional zone;</li> <li>ii. Outside urban areas, in: <ul style="list-style-type: none"> <li>(aa) A protected area identified in terms of NEMPAA, excluding conservancies;</li> <li>(bb) National Protected Area Expansion Strategy Focus areas;</li> <li>(cc) World Heritage Sites;</li> <li>(dd) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</li> <li>(ee) Sites or areas identified in terms of an International Convention;</li> <li>(ff) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</li> <li>(gg) Core areas in biosphere reserves;</li> <li>(hh) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or</li> </ul> </li> </ul>	
--	--	---	--



	<p>from the core of a biosphere reserve;</p> <p>(ii) Areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined; or</p> <p>(jj) Areas on the watercourse side of the development setback line or within 100 metres from the edge of a watercourse where no such setback line has been determined; or</p> <p>iii. In urban areas:</p> <p>(aa) Areas zoned for use as public open space; or</p> <p>(bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose.</p>	<p>(c) In Gauteng:</p> <p>i. A protected area identified in terms of NEMPAA, excluding conservancies;</p> <p>ii. National Protected Area Expansion Strategy Focus Areas;</p> <p>iii. Gauteng Protected Area Expansion Priority Areas;</p> <p>iv. Sites identified as Critical Biodiversity Areas (CBAs) and</p>
--	---	---

		<p>Ecological Support Areas (ESAs) in the Gauteng Conservation Plan or in bioregional plans;</p> <p>v. Sites identified within threatened ecosystems listed in terms of the National Environmental Management Act: Biodiversity Act (Act No. 10 of 2004);</p> <p>vi. Sensitive areas identified in an environmental management framework adopted by relevant environmental authority;</p> <p>vii. Sites identified as high potential agricultural land in terms of Gauteng Agricultural Potential Atlas;</p> <p>viii. Sites or areas identified in terms of an International Convention</p> <p>ix. Sites managed as protected areas by provincial authorities, or declared as nature reserves in terms of the Nature Conservation Ordinance (Ordinance 12 of 1983) or the National Environmental Management: Protected Areas Act (Act No. 57 of 2003);</p> <p>x. Sites designated as nature reserves within municipal SDFs;</p> <p>xi. Sites zoned for a conservation or public open space or equivalent zoning; or</p>	
--	--	---	--

	<p>xii. Important Bird and Biodiversity Areas.</p> <p>(d) <b>KwaZulu-Natal:</b></p> <ul style="list-style-type: none"> <li>i. In an estuarine functional zone;</li> <li>ii. Community Conservation Areas;</li> <li>iii. Biodiversity Stewardship Programme Biodiversity Agreement areas;</li> <li>iv. A protected area identified in terms of NEMPAA, excluding conservancies;</li> <li>v. World Heritage Sites;</li> <li>vi. Sites or areas identified in terms of an International Convention;</li> <li>vii. Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</li> <li>viii. Core areas in biosphere reserves;</li> <li>ix. Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose;</li> <li>x. Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core of a</li> </ul>	
--	---	--

	<p>biosphere reserve;</p> <p>xi. Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</p> <p>xii. Outside urban areas:</p> <p>(aa) Areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined; or</p> <p>(bb) Areas within 100 metres from the edge of a watercourse; or</p> <p>xiii. In urban areas:</p> <p>(aa) Areas zoned for use as public open space; or</p> <p>(bb) Areas seawards of the development setback line or within 100m high-water mark of the sea if no such development setback line is determined.</p>	<p>(e) <b>In North West :</b></p> <p>i. Outside urban areas, in:</p> <p>(aa) A protected area identified in terms of NEMPAA, excluding areas where no indigenous vegetation will be cleared;</p>
--	---	--

		<p>(bb) National Protected Area Expansion Strategy Focus areas;</p> <p>(cc) World Heritage Sites;</p> <p>(dd) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</p> <p>(ee) Sites or areas identified in terms of an International Convention;</p> <p>(ff) Critical biodiversity areas (Terrestrial Type 1 and 2) as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</p> <p>(gg) Core areas in biosphere reserves;</p> <p>(hh) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core areas of a biosphere reserve; or</p> <p>(ii) Areas on the watercourse side of the development setback line or within 100 metres from the edge of a watercourse where no such setback line has been determined.</p>		
--	--	---	--	--

8.	The development and related operation of above ground cableways and funiculars.	<p><b>(f) In Western Cape:</b></p> <p>i. All areas outside urban areas.</p> <p><b>(a) In Eastern Cape, Free State, Limpopo, Mpumalanga, and Northern Cape:</b></p> <p>i. All areas outside urban areas; or</p> <p>ii. In urban areas:</p> <p>(aa) Areas zoned for use as public open space;</p> <p>(bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose;</p> <p>(cc) Areas on the watercourse side of the development setback line or within 100 metres from the edge of a watercourse where no such setback line has been determined; or</p> <p>(dd) Areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined.</p>	
----	---	--	--

	<p><b>(b) In Gauteng</b></p> <ul style="list-style-type: none"> <li>i. A protected area identified in terms of NEMPAA, excluding conservancies;</li> <li>ii. Sites identified as Critical Biodiversity Areas (CBAs) and Ecological Support Areas (ESAs) in the Gauteng Conservation Plan or in bioregional plans;</li> <li>iii. Sites or areas identified in terms of an International Convention;</li> <li>iv. Sites managed as protected areas by provincial authorities, or declared as nature reserves in terms of the Nature Conservation Ordinance (Ordinance 12 of 1983) or the National Environmental Management: Protected Areas Act (Act No. 57 of 2003);</li> <li>v. Sites designated as nature reserves within municipal SDFs;</li> <li>vi. Sites zoned for a conservation or public open space or equivalent zoning; or</li> <li>vii. Important Bird and Biodiversity Areas.</li> </ul>	
	<p><b>(c) In KwaZulu-Natal:</b></p> <ul style="list-style-type: none"> <li>i. All areas outside urban areas; or</li> <li>ii. In urban areas:</li> </ul>	



	<p>(aa) In an estuarine functional zone;</p> <p>(bb) A protected area identified in terms of NEMPAA, excluding conservancies;</p> <p>(cc) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</p> <p>(dd) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</p> <p>(ee) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose;</p> <p>(ff) Areas zoned for use as public open space;</p> <p>(gg) Areas on the watercourse side of the development setback line or within 100 metres from the edge of a watercourse where no such setback line has been determined;</p> <p>(hh) Areas seawards of the development setback line or within 100 metres from the high-water mark of the sea if no such development setback line is</p>	

	<p>determined; or</p> <p>(ii) Areas within 500 metres from protected areas identified in terms of NEMPAA.</p> <p>(d) <b>In North West :</b></p> <p>i. All areas outside urban areas; or</p> <p>ii. In urban areas:</p> <p>(aa) Areas zoned for use as public open space;</p> <p>(bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose;</p> <p>(cc) A protected area identified in terms of NEMPAA;</p> <p>(dd) Critical biodiversity areas (Type 1 and 2) as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</p> <p>(ee) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core of a biosphere reserve; or</p> <p>(ff) Natural heritage sites.</p>	
--	---	--

9.	The development and related operation of zip-lines or foefie-slides exceeding 100 metres in length.	<p>(e) <b>In Western Cape</b></p> <p>i. All areas outside urban areas.</p> <p>(a) <b>In Eastern Cape, Free State, Limpopo, Mpumalanga, and Northern Cape:</b></p> <p>i. All areas outside urban areas; or</p> <p>ii. In urban areas:</p> <p>(aa) Areas zoned for use as public open space;</p> <p>(bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose;</p> <p>(cc) Areas on the watercourse side of the development setback line or within 100 metres from the edge of a watercourse where no such setback line has been determined; or</p> <p>(dd) Areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined.</p>
----	---	---

	<p><b>(b) In Gauteng</b></p> <ul style="list-style-type: none"> <li>i. A protected area identified in terms of NEMPAA, excluding conservancies;</li> <li>ii. Sites identified as Critical Biodiversity Areas (CBAs) and Ecological Support Areas (ESAs) in the Gauteng Conservation Plan or in bioregional plans;</li> <li>iii. Sites or areas identified in terms of an International Convention;</li> <li>iv. Sites managed as protected areas by provincial authorities, or declared as nature reserves in terms of the Nature Conservation Ordinance (Ordinance 12 of 1983) or the National Environmental Management: Protected Areas Act (Act No. 57 of 2003);</li> <li>v. Sites designated as nature reserves within municipal SDFs;</li> <li>vi. Sites zoned for a conservation or public open space or equivalent zoning; or</li> <li>vii. Important Bird and Biodiversity Areas.</li> </ul> <p><b>(c) In KwaZulu-Natal:</b></p> <ul style="list-style-type: none"> <li>i. All areas outside urban areas; or</li> <li>ii. In urban areas:</li> </ul>	
--	--	--

		<p>(aa) A protected area identified in terms of NEMPAA, excluding conservancies;</p> <p>(bb) In an estuarine functional zone;</p> <p>(cc) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</p> <p>(dd) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</p> <p>(ee) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose;</p> <p>(ff) Areas zoned for use as public open space;</p> <p>(gg) Areas on the watercourse side of the development setback line or within 100 metres from the edge of a watercourse where no such setback line has been determined;</p> <p>(hh) Areas seawards of the development setback line or within 100 metres from the high-water mark of the sea if no such development setback line is</p>		
--	--	---	--	--

	<p>determined; or</p> <p>(ii) Areas within 500 metres from protected areas identified in terms of NEMPAA.</p> <p>(d) <b>In North West :</b></p> <p>i. All areas outside urban areas; or</p> <p>ii. In urban areas:</p> <p>(aa) Areas zoned for use as public open space;</p> <p>(bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose;</p> <p>(cc) A protected area identified in terms of NEMPAA;</p> <p>(dd) Critical biodiversity areas (Type 1 and 2) as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</p> <p>(ee) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core of a biosphere reserve; or</p> <p>(ff) Natural heritage sites.</p>	

10.	The development of facilities or infrastructure for the storage, or storage and handling of a dangerous good, where such storage occurs in containers with a combined capacity of 30 but not exceeding 80 cubic metres.	<p>(a) In Free State, Mpumalanga and Northern Cape provinces:</p> <ul style="list-style-type: none"> <li>i. In an estuary;</li> <li>ii. Outside urban areas, in: <ul style="list-style-type: none"> <li>(aa) A protected area identified in terms of NEMPAA, excluding conservancies;</li> <li>(bb) National Protected Area Expansion Strategy Focus areas;</li> <li>(cc) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</li> <li>(dd) Sites or areas identified in terms of an International Convention;</li> <li>(ee) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</li> <li>(ff) Core areas in biosphere reserves;</li> <li>(gg) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or</li> </ul> </li> </ul>
-----	---	--

	<p>from the core areas of a biosphere reserve;</p> <p>(hh) Areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined;</p> <p>(ii) Areas on the watercourse side of the development setback line or within 100 metres from the edge of a watercourse where no such setback line has been determined; or</p> <p>(jj) Within 500 metres of an estuary; or</p> <p>iii. In urban areas:</p> <p>(aa) Areas zoned for use as public open space;</p> <p>(bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose; or</p> <p>(cc) Within 500 metres of an estuary.</p>	<p>(b) <b>In Eastern Cape:</b></p> <p>i. In an estuarine functional zone;</p> <p>ii. Outside urban areas, in:</p> <p>(aa) A protected area identified in terms of NEMPAA,</p>
--	---	---



		<p>excluding conservancies;</p> <p>(bb) National Protected Area Expansion Strategy Focus areas;</p> <p>(cc) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</p> <p>(dd) Sites or areas identified in terms of an International Convention;</p> <p>(ee) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</p> <p>(ff) Core areas in biosphere reserves;</p> <p>(gg) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core areas of a biosphere reserve;</p> <p>(hh) Areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined;</p> <p>(ii) Areas on the watercourse side of the development</p>
--	--	--

	<p>setback line or within 100 metres from the edge of a watercourse where no such setback line has been determined; or</p> <p>(jj) Within 500 metres of an estuarine functional zone; or</p> <p>iii. In urban areas:</p> <p>(aa) Areas zoned for use as public open space;</p> <p>(bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose; or</p> <p>(cc) Within 500 metres of an estuarine functional zone.</p>	
	<p><b>(c) In Gauteng:</b></p> <p>i. A protected area identified in terms of NEMPAA, excluding conservancies;</p> <p>ii. National Protected Area Expansion Strategy Focus Areas;</p> <p>iii. Gauteng Protected Area Expansion Priority Areas;</p> <p>iv. Sites identified as Critical Biodiversity Areas (CBAs) and Ecological Support Areas (ESAs) in the Gauteng Conservation Plan or in bioregional plans;</p>	

	<p>v. Sites identified within threatened ecosystems listed in terms of the National Environmental Management Act: Biodiversity Act (Act No. 10 of 2004);</p> <p>vi. Sensitive areas identified in an environmental management framework adopted by relevant environmental authority;</p> <p>vii. Sites identified as high potential agricultural land in terms of Gauteng Agricultural Potential Atlas;</p> <p>viii. Sites or areas identified in terms of an International Convention</p> <p>ix. Sites managed as protected areas by provincial authorities, or declared as nature reserves in terms of the Nature Conservation Ordinance (Ordinance 12 of 1983) or the National Environmental Management: Protected Areas Act (Act No. 57 of 2003);</p> <p>x. Sites designated as nature reserves within municipal SDFs; or</p> <p>xi. Sites zoned for conservation or public open space or equivalent zoning.</p>	<p>(d) In KwaZulu-Natal:</p> <p>i. In an estuarine functional zone;</p>
--	--	---

	<ul style="list-style-type: none"> <li>ii. Trans-frontier protected areas managed under international conventions;</li> <li>iii. Community Conservation Areas;</li> <li>iv. Biodiversity Stewardship Programme Biodiversity Agreement areas;</li> <li>v. World Heritage Sites;</li> <li>vi. Within 500 metres of an estuarine functional zone;</li> <li>vii. A protected area identified in terms of NEMPAA, excluding conservancies;</li> <li>viii. Sites or areas identified in terms of an International Convention;</li> <li>ix. Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</li> <li>x. Core areas in biosphere reserves;</li> <li>xi. Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose;</li> <li>xii. Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</li> </ul>	
--	---	--

	<p>xiii. Outside urban areas:</p> <p>(aa) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core areas of a biosphere reserve;</p> <p>(bb) Areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined; or</p> <p>(cc) Areas within 100 metres from the edge of a watercourse; or</p> <p>xiv. In urban areas:</p> <p>(aa) Areas zoned for use as public open space; or</p> <p>(bb) Areas seawards of the development setback line or within 100 metres from the high-water mark of the sea if no such development setback line is determined;</p>	<p>(e) In Limpopo:</p> <p>i. All areas.</p>	<p>(f) In North West :</p> <p>i. Outside urban areas.</p>
--	---	---	---

		<p><b>(g) In Western Cape:</b></p> <ul style="list-style-type: none"> <li>i. All areas outside urban areas; or</li> <li>ii. Inside urban areas: <ul style="list-style-type: none"> <li>(aa) Areas seawards of the development setback line or within 200 metres from the high-water mark of the sea if no such development setback line is determined;</li> <li>(bb) Areas on the watercourse side of the development setback line or within 100 metres from the edge of a watercourse where no such setback line has been determined; or</li> <li>(cc) Areas on the estuary side of the development setback line or in an estuarine functional zone where no such setback line has been determined.</li> </ul> </li> </ul>	
<p><b>11.</b></p>	<p>The development of tracks or routes for the testing, recreational use or outdoor racing of motor powered vehicles excluding conversion of existing tracks or routes for the testing, recreational use or</p>	<p><b>(a) In Eastern Cape:</b></p> <ul style="list-style-type: none"> <li>i. In an estuarine functional zone;</li> <li>ii. In areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined; or</li> <li>iii. Within areas of indigenous vegetation outside urban areas.</li> </ul>	

	<p>outdoor racing of motor powered vehicles.</p>	<p><b>(b) In Free State, Limpopo and Mpumalanga provinces:</b></p> <p>i. Outside urban areas, in:</p> <p>(aa) A protected area identified in terms of NEMPAA, excluding conservancies;</p> <p>(bb) National Protected Area Expansion Strategy Focus areas;</p> <p>(cc) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</p> <p>(dd) Sites or areas identified in terms of an International Convention;</p> <p>(ee) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</p> <p>(ff) Core areas in biosphere reserves;</p> <p>(gg) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core of a biosphere reserve; or</p> <p>ii. In urban areas:</p>
--	--	--

<p>(aa) Areas zoned for use as public open space;</p> <p>(bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose.</p>	<p><b>(c) In Gauteng:</b></p> <ul style="list-style-type: none"> <li>i. A protected area identified in terms of NEMPAA, excluding conservancies;</li> <li>ii. Gauteng Protected Area Expansion Priority Areas;</li> <li>iii. Sites identified as Critical Biodiversity Areas (CBAs) and Ecological Support Areas (ESAs) in the Gauteng Conservation Plan or in bioregional plans;</li> <li>iv. Sensitive areas identified in an environmental management framework adopted by relevant environmental authority;</li> <li>v. Sites or areas identified in terms of an International Convention</li> <li>vi. Sites managed as protected areas by provincial authorities, or declared as nature reserves in terms of the Nature Conservation Ordinance (Ordinance 12 of 1983) or the National Environmental Management: Protected</li> </ul>



	<p>Areas Act (Act No. 57 of 2003);</p> <p>vii. Important Bird and Biodiversity Area (IBA);</p> <p>viii. Sites designated as nature reserves within municipal SDFs; or</p> <p>ix. Sites zoned for conservation or public open space or equivalent zoning.</p>	
	<p>(d) <b>In KwaZulu-Natal:</b></p> <p>i. In an estuarine functional zone;</p> <p>ii. Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</p> <p>iii. Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose;</p> <p>iv. Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</p> <p>v. Outside urban areas:</p> <p>(aa) Within areas of indigenous vegetation; or</p> <p>(bb) In areas seawards of the development setback line or within 1 kilometre from the high-water mark of</p>	

	<p>the sea if no such development setback line is determined; or</p> <p>vi. In urban areas:</p> <p>(aa) Areas seawards of the development setback line or within 100 metres from the high-water mark of the sea if no such development setback line is determined;</p> <p>(bb) Areas within 32 metres from the edge of a watercourse; or</p> <p>(cc) Areas zoned for use as public open space.</p>	
	<p><b>(e) In Northern Cape:</b></p> <p>i. In an estuary;</p> <p>ii. In areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined; or</p> <p>iii. Within areas of indigenous vegetation outside urban areas.</p>	
	<p><b>(f) In North West :</b></p> <p>i. Outside urban areas, in:</p> <p>(aa) A protected area identified in terms of NEMPAA;</p> <p>(bb) National Protected Area Expansion Strategy</p>	

		<p>Focus areas:</p> <ul style="list-style-type: none"> <li>(cc) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</li> <li>(dd) Sites or areas identified in terms of an International Convention;</li> <li>(ee) Critical biodiversity areas (Type 1 and 2) as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</li> <li>(ff) Core areas in biosphere reserves;</li> <li>(gg) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core area of a biosphere reserve; or</li> </ul> <p>ii. In urban areas:</p> <ul style="list-style-type: none"> <li>(aa) Areas zoned for use as public open space;</li> <li>(bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose; or</li> </ul>		
--	--	--	--	--

<p>(cc) Natural heritage sites.</p>	<p><b>(g) In Western Cape:</b></p> <ul style="list-style-type: none"> <li>i. Areas on the estuary side of the development setback line or in an estuarine functional zone where no such setback line has been determined;</li> <li>ii. Seawards of the development setback line or within 200 metres of the high water mark of the sea if no such development setback line is determined; or</li> <li>iii. Areas of indigenous vegetation outside urban areas.</li> </ul>

<p>12.</p>	<p>The clearance of an area of 300 square metres or more of indigenous vegetation except where such clearance of indigenous vegetation is required for maintenance purposes undertaken in accordance with a maintenance management plan.</p>	<p>(a) <b>In Eastern Cape, Free State, Gauteng, Limpopo, North West and Western Cape provinces:</b></p> <ul style="list-style-type: none"> <li>i. Within any critically endangered or endangered ecosystem listed in terms of section 52 of the NEMBA or prior to the publication of such a list, within an area that has been identified as critically endangered in the National Spatial Biodiversity Assessment 2004;</li> <li>ii. Within critical biodiversity areas identified in bioregional plans;</li> <li>iii. Within the littoral active zone or 100 metres inland from high water mark of the sea or an estuarine functional zone, whichever distance is the greater, excluding where such removal will occur behind the development setback line on erven in urban areas; or</li> <li>iv. On land, where, at the time of the coming into effect of this Notice or thereafter such land was zoned open space, conservation or had an equivalent zoning.</li> </ul>
------------	--	---

	<p><b>(b) In KwaZulu-Natal:</b></p> <ul style="list-style-type: none"> <li>i. Trans-frontier protected areas managed under international conventions;</li> <li>ii. Community Conservation Areas;</li> <li>iii. Biodiversity Stewardship Programme Biodiversity Agreement areas;</li> <li>iv. Within any critically endangered or endangered ecosystem listed in terms of section 52 of the NEMBA or prior to the publication of such a list, within an area that has been identified as critically endangered in the National Spatial Biodiversity Assessment 2004;</li> <li>v. Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</li> <li>vi. Within the littoral active zone or 100 metres inland from high water mark of the sea or an estuarine functional zone, whichever distance is the greater, excluding where such removal will occur behind the development setback line on erven in urban areas;</li> <li>vii. On land, where, at the time of the coming into effect of this Notice or thereafter such land was zoned open</li> </ul>	
--	--	--

	<p>space, conservation or had an equivalent zoning;</p> <p>viii. A protected area identified in terms of NEMPAA, excluding conservancies;</p> <p>ix. World Heritage Sites;</p> <p>x. Sites or areas identified in terms of an International Convention;</p> <p>xi. Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose;</p> <p>xii. Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority; or</p> <p>xiii. In an estuarine functional zone.</p>	<p><b>(c) In Mpumalanga:</b></p> <p>i. Within any critically endangered or endangered ecosystem listed in terms of section 52 of the NEMBA or prior to the publication of such a list, within an area that has been identified as critically endangered in the National Spatial Biodiversity Assessment 2004;</p> <p>ii. Within critical biodiversity areas identified in bioregional</p>
--	---	---

<p>plans;</p> <p>iii. Within the littoral active zone or 100 metres inland from high water mark of the sea or an estuarine functional zone, whichever distance is the greater, excluding where such removal will occur behind the development setback line on erven in urban areas; or</p> <p>iv. On land, where, at the time of the coming into effect of this Notice or thereafter such land was zoned open space, conservation or had an equivalent zoning or proclamation in terms of NEMPAA.</p>	<p>(d) <b>In Northern Cape:</b></p> <p>i. Within any critically endangered or endangered ecosystem listed in terms of section 52 of the NEMBA or prior to the publication of such a list, within an area that has been identified as critically endangered in the National Spatial Biodiversity Assessment 2004;</p> <p>ii. Within critical biodiversity areas identified in bioregional plans;</p> <p>iii. Within the littoral active zone or 100 metres inland from high water mark of the sea or an estuary, whichever distance is the greater, excluding where such removal will occur behind the development setback line on erven</p>



		<p>in urban areas; or</p> <p>iv. On land, where, at the time of the coming into effect of this Notice or thereafter such land was zoned open space, conservation or had an equivalent zoning.</p>	
13.	The development and related operation of facilities of any size for any form of aquaculture.	<p>(a) <b>In Free State, Gauteng, Limpopo, Mpumalanga, Northern Cape, and North West provinces:</b></p> <p>i. In an estuary;</p> <p>ii. In a Protected Area identified in the NEMPAA; or</p> <p>iii. Areas on the watercourse side of the development setback line or within 100 metres from the edge of a watercourse where no such setback line has been determined.</p>	

	<p><b>(b) In Eastern Cape:</b></p> <ul style="list-style-type: none"> <li>i. In an estuarine functional zone;</li> <li>ii. In a Protected Area identified in the NEMPAA; or</li> <li>iii. Areas on the watercourse side of the development setback line or within 100 metres from the edge of a watercourse where no such setback line has been determined.</li> </ul>	
	<p><b>(c) In KwaZulu-Natal:</b></p> <ul style="list-style-type: none"> <li>i. Trans-frontier protected areas managed under international conventions;</li> <li>ii. Community Conservation Areas;</li> <li>iii. Biodiversity Stewardship Programme Biodiversity Agreement areas;</li> <li>iv. In an estuarine functional zone;</li> <li>v. In a Protected Area identified in the NEMPAA;</li> <li>vi. World Heritage Sites;</li> <li>vii. Areas on the watercourse side of the development setback line or within 100 metres from the edge of a watercourse where no such setback line has been determined;</li> <li>viii. Sites or areas identified in terms of an International</li> </ul>	

		<p>Convention;</p> <p>ix. Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</p> <p>x. Core areas in biosphere reserves;</p> <p>xi. Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose; or</p> <p>xii. Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority.</p>	
14.	The development of— (i) canals exceeding 10 square	<p>(d) <b>In Western Cape:</b></p> <p>i. Areas on the estuary side of the development setback line or in an estuarine functional zone where no such setback line has been determined;</p> <p>ii. In a Protected area identified in terms of NEMPAA; and</p> <p>iii. In an aquatic critical biodiversity area.</p> <p>(a) <b>In Free State, Limpopo, Mpumalanga and Northern Cape:</b></p>	

	<p>metres in size ;</p> <ul style="list-style-type: none"> <li>(ii) channels exceeding 10 square metres in size;</li> <li>(iii) bridges exceeding 10 square metres in size;</li> <li>(iv) dams, where the dam, including infrastructure and water surface area exceeds 10 square metres in size;</li> <li>(v) weirs, where the weir, including infrastructure and water surface area exceeds 10 square metres in size;</li> <li>(vi) bulk storm water outlet structures exceeding 10 square metres in size;</li> <li>(vii) marinas exceeding 10 square metres in size;</li> <li>(viii) jetties exceeding 10 square metres in size;</li> <li>(ix) slipways exceeding 10 square metres in size;</li> <li>(x) buildings exceeding 10 square metres in size;</li> <li>(xi) boardwalks exceeding 10 square metres in size; or</li> <li>(xii) infrastructure or structures with a physical footprint of 10 square metres or more;</li> </ul>	<ul style="list-style-type: none"> <li>i. In an estuary;</li> <li>ii. Outside urban areas, in:             <ul style="list-style-type: none"> <li>(aa) A protected area identified in terms of NEMPAA, excluding conservancies;</li> <li>(bb) National Protected Area Expansion Strategy Focus areas;</li> <li>(cc) World Heritage Sites;</li> <li>(dd) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</li> <li>(ee) Sites or areas identified in terms of an International Convention;</li> <li>(ff) Critical biodiversity areas or ecosystem service areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</li> <li>(gg) Core areas in biosphere reserves;</li> <li>(hh) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or</li> </ul> </li> </ul>
--	--	---

	<p>where such development occurs—</p> <p>(a) within a watercourse;</p> <p>(b) in front of a development setback; or</p> <p>(c) if no development setback has been adopted, within 32 metres of a watercourse, measured from the edge of a watercourse;</p> <p>excluding the development of infrastructure or structures within existing ports or harbours that will not increase the development footprint of the port or harbour.</p>	<p>from the core area of a biosphere reserve;</p> <p>(ii) Areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined; or</p> <p>iii. In urban areas:</p> <p>(aa) Areas zoned for use as public open space;</p> <p>(bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority, zoned for a conservation purpose; or</p> <p>(cc) Areas seawards of the development setback line.</p> <p><b>(b) In Gauteng:</b></p> <p>i. A protected area identified in terms of NEMPAA, excluding conservancies;</p> <p>ii. National Protected Area Expansion Strategy Focus Areas;</p> <p>iii. Gauteng Protected Area Expansion Priority Areas;</p> <p>iv. Sites identified as Critical Biodiversity Areas (CBAs) and Ecological Support Areas (ESAs) in the Gauteng Conservation Plan or in bioregional plans;</p>	
--	--	--	--

	<p>v. Sites identified within threatened ecosystems listed in terms of the National Environmental Management Act: Biodiversity Act (Act No. 10 of 2004);</p> <p>vi. Sensitive areas identified in an environmental management framework adopted by relevant environmental authority;</p> <p>vii. Sites or areas identified in terms of an International Convention</p> <p>viii. Sites managed as protected areas by provincial authorities, or declared as nature reserves in terms of the Nature Conservation Ordinance (Ordinance 12 of 1983) or the National Environmental Management: Protected Areas Act (Act No. 57 of 2003);</p> <p>ix. Sites designated as nature reserves within municipal SDFs; or</p> <p>x. Sites zoned for conservation or public open space or equivalent zoning.</p>	<p>(c) <b>In Eastern Cape:</b></p> <p>i. In an estuarine functional zone;</p> <p>ii. Outside urban areas, in:</p> <p>(aa) A protected area identified in terms of NEMPAA,</p>
--	--	---

	<p>excluding conservancies;</p> <p>(bb) National Protected Area Expansion Strategy Focus areas;</p> <p>(cc) World Heritage Sites;</p> <p>(dd) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</p> <p>(ee) Sites or areas identified in terms of an International Convention;</p> <p>(ff) Critical biodiversity areas or ecosystem service areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</p> <p>(gg) Core areas in biosphere reserves;</p> <p>(hh) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core area of a biosphere reserve; or</p> <p>(ii) Areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is</p>		
--	--	--	--

		<p>determined; or</p> <p>iii. In urban areas:</p> <p>(aa) Areas zoned for use as public open space;</p> <p>(bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority, zoned for a conservation purpose; or</p> <p>(cc) Areas seawards of the development setback line.</p> <p><b>(d) In KwaZulu-Natal:</b></p> <p>i. In an estuarine functional zone;</p> <p>ii. Community Conservation Areas;</p> <p>iii. Biodiversity Stewardship Programme Biodiversity Agreement areas;</p> <p>iv. A protected area identified in terms of NEMPAA, excluding conservancies;</p> <p>v. World Heritage Sites;</p> <p>vi. Sites or areas identified in terms of an International Convention;</p> <p>vii. Critical biodiversity areas or ecological support areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</p>	
--	--	--	--



		<p>viii. Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</p> <p>ix. Core areas in biosphere reserves;</p> <p>x. Outside urban areas:</p> <p>(aa) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core area of a biosphere reserve; or</p> <p>(bb) Areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined; or</p> <p>xi. In urban areas:</p> <p>(aa) Areas zoned for use as public open space;</p> <p>(bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority, zoned for a conservation purpose; or</p> <p>(cc) Areas seawards of the development setback line or within 100 metres from the high-water mark of the sea if no such development setback line is</p>		
--	--	--	--	--

	<p>determined.</p>	
	<p><b>(e) In North West:</b></p>	
	<p>i. Outside urban areas, in:</p>	
	<p>(aa) A protected area identified in terms of NEMPAA;</p>	
	<p>(bb) National Protected Area Expansion Strategy Focus areas;</p>	
	<p>(cc) World Heritage Sites;</p>	
	<p>(dd) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</p>	
	<p>(ee) Sites or areas identified in terms of an International Convention;</p>	
	<p>(ff) Critical biodiversity areas or ecosystem service areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</p>	
	<p>(gg) Core areas in biosphere reserves; or</p>	
	<p>(hh) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or</p>	

<p>from the core areas of a biosphere reserve; or</p> <p>ii. Inside urban areas:</p> <p>(aa) Areas zoned for use as public open space; or</p> <p>(bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose.</p>	<p><b>(f) In Western Cape:</b></p> <p>i. Outside urban areas, in:</p> <p>(aa) A protected area identified in terms of NEMPAA, excluding conservancies;</p> <p>(bb) National Protected Area Expansion Strategy Focus areas;</p> <p>(cc) World Heritage Sites;</p> <p>(dd) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</p> <p>(ee) Sites or areas listed in terms of an International Convention;</p> <p>(ff) Critical biodiversity areas or ecosystem service</p>

		<p>areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</p> <p>(gg) Core areas in biosphere reserves; or</p> <p>(hh) Areas on the estuary side of the development setback line or in an estuarine functional zone where no such setback line has been determined.</p>	
<p>15.</p>	<p>The transformation of land bigger than 1000 square metres in size, to residential, retail, commercial, industrial or institutional use, where, such land was zoned open space, conservation or had an equivalent zoning, on or after 02 August 2010.</p>	<p><b>(a) In Gauteng and North West:</b></p> <p>i. All areas.</p> <p><b>(b) In Limpopo and Mpumalanga:</b></p> <p>i. In urban areas.</p> <p><b>(c) In Western Cape:</b></p> <p>i. Outside urban areas, or</p> <p>ii. Inside urban areas in:</p> <p>(aa) Areas zoned for conservation use or equivalent zoning, on or after 02 August 2010;</p> <p>(bb) A protected area identified in terms of NEMPAA, excluding conservancies; or</p> <p>(cc) Sensitive areas as identified in an environmental management framework as contemplated in chapter</p>	

		5 of the Act as adopted by the competent authority.	
16.	The expansion of reservoirs for bulk water supply where the capacity will be increased by more than 250 cubic metres.	<p>(a) In Eastern Cape, Free State, Limpopo, Mpumalanga and Northern Cape provinces:</p> <p>i. Outside urban areas, in:</p> <p>(aa) A protected area identified in terms of NEMPAA, excluding conservancies;</p> <p>(bb) National Protected Area Expansion Strategy Focus areas;</p> <p>(cc) World Heritage Sites;</p> <p>(dd) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</p> <p>(ee) Sites or areas identified in terms of an International Convention;</p> <p>(ff) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</p> <p>(gg) Core areas in biosphere reserves;</p>	

	<p>(hh) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core area of a biosphere reserve; or</p> <p>(ii) Areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined; or</p> <p>ii. Inside urban areas:</p> <p>(aa) Areas zoned for use as public open space;</p> <p>(bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority, or zoned for a conservation purpose; or</p> <p>(cc) Areas seawards of development setback line or within 100 metres of the high water mark of the sea where the development setback line has not been determined.</p>	
	<p><b>(b) In Gauteng:</b></p> <p>i. A protected area identified in terms of NEMPAA, excluding conservancies;</p> <p>ii. National Protected Area Expansion Strategy Focus</p>	

		<p>Areas;</p> <ul style="list-style-type: none"> <li>iii. Gauteng Protected Area Expansion Priority Areas;</li> <li>iv. Sites identified as Critical Biodiversity Areas (CBAs) and Ecological Support Areas (ESAs) in the Gauteng Conservation Plan or in bioregional plans;</li> <li>v. Sites identified within threatened ecosystems listed in terms of the National Environmental Management Act: Biodiversity Act (Act No. 10 of 2004);</li> <li>vi. Sensitive areas identified in an environmental management framework adopted by relevant environmental authority;</li> <li>vii. Sites or areas identified in terms of an International Convention;</li> <li>viii. Sites managed as protected areas by provincial authorities, or declared as nature reserves in terms of the Nature Conservation Ordinance (Ordinance 12 of 1983) or the National Environmental Management: Protected Areas Act (Act No. 57 of 2003);</li> <li>ix. Sites designated as nature reserves within municipal SDFs; or</li> <li>x. Sites zoned for a conservation or public open space or equivalent zoning.</li> </ul>	
--	--	---	--

		<p>(c) <b>In KwaZulu-Natal:</b></p> <ul style="list-style-type: none"> <li>i. Trans-frontier protected areas managed under international conventions;</li> <li>ii. Community Conservation Areas;</li> <li>iii. Biodiversity Stewardship Programme Biodiversity Agreement areas;</li> <li>iv. World Heritage Sites;</li> <li>v. In an estuarine functional zone;</li> <li>vi. In a protected area identified in terms of NEMPAA, excluding conservancies;</li> <li>vii. Sites or areas identified in terms of an International Convention;</li> <li>viii. Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</li> <li>ix. Core areas in biosphere reserves;</li> <li>x. Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority, or zoned for a conservation purpose;</li> <li>xi. Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of</li> </ul>	
--	--	--	--



	<p>the Act and as adopted by the competent authority;</p> <p>xii. Outside urban areas:</p> <p>(aa) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core area of a biosphere reserve; or</p> <p>(bb) Areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined; or</p> <p>xiii. In urban areas:</p> <p>(aa) Areas zoned for use as public open space;</p> <p>(bb) Areas seawards of the development setback line or within 100 meters from the high-water mark of the sea if no such development setback line is determined; or</p> <p>(cc) Within urban protected areas.</p> <p><b>(d) In North West :</b></p> <p>i. Outside urban areas, in:</p> <p>(aa) A protected area identified in terms of NEMPAA;</p>	
--	---	--

	<p>(bb) National Protected Area Expansion Strategy</p> <p>Focus areas;</p> <p>(cc) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</p> <p>(dd) Sites or areas identified in terms of an International Convention;</p> <p>(ee) Critical biodiversity areas (Type 1 and 2) as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</p> <p>(ff) Core areas in biosphere reserves; or</p> <p>(gg) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core areas of a biosphere reserve; or</p> <p>ii. Inside urban areas:</p> <p>(aa) Areas zoned for use as public open space; or</p> <p>(bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority, or zoned for a conservation</p>	
--	---	--

		<p>purpose.</p> <p><b>(e) In Western Cape:</b></p> <ul style="list-style-type: none"> <li>i. A protected area identified in terms of NEMPAA, excluding conservancies;</li> <li>ii. In areas containing indigenous vegetation; or</li> <li>iii. In urban areas: <ul style="list-style-type: none"> <li>(aa) Areas zoned for use as public open space; or</li> <li>(bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority, or zoned for a conservation purpose, including residential areas.</li> </ul> </li> </ul>
17.	The expansion of a resort, lodge, hotel and tourism or hospitality facilities where the development footprint will be expanded.	<p><b>(a) In Free State, Limpopo, Mpumalanga and Northern Cape provinces:</b></p> <ul style="list-style-type: none"> <li>i. In an estuary;</li> <li>ii. Outside urban areas, in: <ul style="list-style-type: none"> <li>(aa) A protected area identified in terms of NEMPAA, excluding conservancies;</li> <li>(bb) National Protected Area Expansion Strategy Focus areas;</li> <li>(cc) Sensitive areas as identified in an environmental management framework as contemplated in</li> </ul> </li> </ul>

	<p>chapter 5 of the Act and as adopted by the competent authority;</p> <p>(dd) Sites or areas identified in terms of an International Convention;</p> <p>(ee) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</p> <p>(ff) Core areas in biosphere reserves;</p> <p>(gg) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core area of a biosphere reserve; or</p> <p>(hh) Areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined; or</p> <p>iii. Inside urban areas:</p> <p>(aa) Areas zoned for use as public open space;</p> <p>(bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation;</p>	
--	---	--

	<p>or</p> <p>(cc) Areas seawards of the development set back line or within 100 metres from the high-water mark of the sea if no such development setback line is determined.</p>	
	<p><b>(b) In Eastern Cape:</b></p> <p>i. In an estuarine functional zone;</p> <p>ii. Outside urban areas, in:</p> <p>(aa) A protected area identified in terms of NEMPAA, excluding conservancies;</p> <p>(bb) National Protected Area Expansion Strategy Focus areas;</p> <p>(cc) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</p> <p>(dd) Sites or areas identified in terms of an International Convention;</p> <p>(ee) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</p>	

	<p>(ff) Core areas in biosphere reserves;</p> <p>(gg) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core area of a biosphere reserve; or</p> <p>(hh) Areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined; or</p> <p>iii. Inside urban areas:</p> <p>(aa) Areas zoned for use as public open space;</p> <p>(bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation; or</p> <p>(cc) Areas seawards of the development set back line or within 100 metres from the high-water mark of the sea if no such development setback line is determined.</p>	
	<p><b>(c) In Gauteng:</b></p> <p>(i) A protected area identified in terms of NEMPAA,</p>	

		<p>excluding conservancies;</p> <p>(ii) National Protected Area Expansion Strategy Focus Areas;</p> <p>(iii) Gauteng Protected Area Expansion Priority Areas;</p> <p>(iv) Sites identified as Critical Biodiversity Areas (CBAs) and Ecological Support Areas (ESAs) in the Gauteng Conservation Plan or in bioregional plans;</p> <p>(v) Sites identified within threatened ecosystems listed in terms of the National Environmental Management Act: Biodiversity Act (Act No. 10 of 2004);</p> <p>(vi) Sensitive areas identified in an environmental management framework adopted by relevant environmental authority;</p> <p>(vii) Sites or areas identified in terms of an International Convention</p> <p>(viii) Sites identified as high potential agricultural land in terms of Gauteng Agricultural Potential Atlas;</p> <p>(ix) Sites managed as protected areas by provincial authorities, or declared as nature reserves in terms of the Nature Conservation Ordinance (Ordinance 12 of 1983) or the National Environmental Management: Protected</p>
--	--	---

	<p>Areas Act (Act No. 57 of 2003);</p> <p>(x) Sites designated as nature reserves within municipal SDFs; or</p> <p>(xi) Sites zoned for a conservation or public open space or equivalent zoning.</p>	
	<p>(d) <b>In KwaZulu-Natal:</b></p> <ul style="list-style-type: none"> <li>i. Trans-frontier protected areas managed under international conventions;</li> <li>ii. Community Conservation Areas;</li> <li>iii. Biodiversity Stewardship Programme Biodiversity Agreement areas;</li> <li>iv. In an estuarine functional zone;</li> <li>v. A protected area identified in terms of NEMPAA, excluding conservancies;</li> <li>vi. Sites or areas identified in terms of an International Convention;</li> <li>vii. Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</li> <li>viii. Core areas in biosphere reserves;</li> <li>ix. World Heritage Sites;</li> </ul>	



		<p>x. Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose;</p> <p>xi. Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</p> <p>xii. Outside urban areas:</p> <p>(aa) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core area of a biosphere reserve;</p> <p>(bb) Areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined; or</p> <p>(cc) Areas within 100 metres from the edge of a watercourse; or</p> <p>xiii. In urban areas:</p> <p>(aa) Areas zoned for use as public open space;</p> <p>(bb) Areas seawards of the development setback line or within 100m from the high-water mark of the sea if no such development setback line is</p>		
--	--	--	--	--

<p>determined; or</p>	<p>(cc) Areas within 500 metres from protected areas identified in terms of NEMPAA.</p>	
	<p>(e) <b>In North West :</b></p> <p>i. Outside urban areas, in:</p> <p>(aa) A protected area identified in terms of NEMPAA, excluding conservancies;</p> <p>(bb) National Protected Area Expansion Strategy Focus areas;</p> <p>(cc) World Heritage Sites;</p> <p>(dd) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</p> <p>(ee) Sites or areas identified in terms of an International Convention;</p> <p>(ff) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</p> <p>(gg) Core areas in biosphere reserves;</p> <p>(hh) Areas within 10 kilometres from national parks or</p>	

		<p>world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core area of a biosphere reserve; or</p> <p>(ii) Areas on the watercourse side of the development setback line or within 100 metres from the edge of a watercourse where no such setback line has been determined; or</p> <p>ii. Inside urban areas:</p> <p>(aa) Areas zoned for use as public open space; or</p> <p>(bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose.</p>
<p>18.</p>	<p>The widening of a road by more than 4 metres; or the</p>	<p>(f) <b>In Western Cape:</b></p> <p>i. A protected area identified in terms of the NEMPAA;</p> <p>ii. Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans; or</p> <p>iii. All areas outside urban areas.</p> <p>(a) <b>In Free State, Limpopo, Mpumalanga and Northern Cape provinces:</b></p>

	<p>lengthening of a road by more than 1 kilometre.</p>	<ul style="list-style-type: none"> <li>i. In an estuary;</li> <li>ii. Outside urban areas, in:             <ul style="list-style-type: none"> <li>(aa) A protected area identified in terms of NEMPAA, excluding conservancies;</li> <li>(bb) National Protected Area Expansion Strategy Focus areas;</li> <li>(cc) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</li> <li>(dd) Sites or areas identified in terms of an International Convention;</li> <li>(ee) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</li> <li>(ff) Core areas in biosphere reserves;</li> <li>(gg) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core area of a biosphere reserve;</li> <li>(hh) Areas seawards of the development setback line</li> </ul> </li> </ul>	
--	--	--	--

	<p>or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined; or</p> <p>(ii) Areas on the watercourse side of the development setback line or within 100 metres from the edge of a watercourse where no such setback line has been determined; or</p> <p>iii. Inside urban areas:</p> <p>(aa) Areas zoned for use as public open space; or</p> <p>(bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose.</p>	
	<p><b>(b) In Eastern Cape:</b></p> <p>i. In an estuarine functional zone;</p> <p>ii. Outside urban areas, in:</p> <p>(aa) A protected area identified in terms of NEMPAA, excluding conservancies;</p> <p>(bb) National Protected Area Expansion Strategy Focus areas;</p> <p>(cc) Sensitive areas as identified in an environmental</p>	

	<p>management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</p> <p>(dd) Sites or areas identified in terms of an International Convention;</p> <p>(ee) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</p> <p>(ff) Core areas in biosphere reserves;</p> <p>(gg) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core area of a biosphere reserve;</p> <p>(hh) Areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined; or</p> <p>(ii) Areas on the watercourse side of the development setback line or within 100 metres from the edge of a watercourse where no such setback line has been determined; or</p> <p>iii. Inside urban areas:</p>	

	<p>(cc) Areas zoned for use as public open space; or</p> <p>(dd) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose.</p>	
	<p><b>(c) In Gauteng:</b></p> <ul style="list-style-type: none"> <li>i. A protected area identified in terms of NEMPAA, excluding conservancies;</li> <li>ii. National Protected Area Expansion Strategy Focus Areas;</li> <li>iii. Gauteng Protected Area Expansion Priority Areas;</li> <li>iv. Sites identified as Critical Biodiversity Areas (CBAs) and Ecological Support Areas (ESAs) in the Gauteng Conservation Plan or in bioregional plans;</li> <li>v. Sites identified within threatened ecosystems listed in terms of the National Environmental Management Act: Biodiversity Act (Act No. 10 of 2004);</li> <li>vi. Sensitive areas identified in an environmental management framework adopted by relevant environmental authority;</li> <li>vii. Sites identified as high potential agricultural land in terms of Gauteng Agricultural Potential Atlas;</li> </ul>	

<p>viii. Sites or areas identified in terms of an International Convention;</p> <p>ix. Important Bird and Biodiversity Area (IBA);</p> <p>x. Sites managed as protected areas by provincial authorities, or declared as nature reserves in terms of the Nature Conservation Ordinance (Ordinance 12 of 1983) or the National Environmental Management: Protected Areas Act (Act No. 57 of 2003);</p> <p>xi. Sites designated as nature reserves within municipal SDFs; or</p> <p>xii. Sites zoned for a conservation or public open space or equivalent zoning.</p>		
<p><b>(d) In KwaZulu-Natal:</b></p> <p>i. Trans-frontier protected areas managed under international conventions;</p> <p>ii. Community Conservation Areas;</p> <p>iii. Biodiversity Stewardship Programme Biodiversity Agreement areas;</p> <p>iv. World Heritage Sites;</p> <p>v. In an estuarine functional zone;</p> <p>vi. A protected area identified in terms of NEMPAA;</p>		



	<p>vii. Sites or areas identified in terms of an International Convention;</p> <p>viii. Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</p> <p>ix. Core areas in biosphere reserves;</p> <p>x. Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose;</p> <p>xi. Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</p> <p>xii. Outside urban areas:</p> <p>(aa) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core areas of a biosphere reserve; or</p> <p>(bb) Areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined; or</p>	
--	---	--

	<p>xiii. In urban areas:</p> <ul style="list-style-type: none"> <li>(aa) Areas zoned for use as public open space;</li> <li>(bb) Seawards of the development setback line or within 100 metres from the high-water mark of the sea if no such development setback line is determined; or</li> <li>(cc) Within urban protected areas.</li> </ul>	
	<p>(e) In North West :</p> <ul style="list-style-type: none"> <li>i. Outside urban areas, in: <ul style="list-style-type: none"> <li>(aa) A protected area identified in terms of NEMPAA;</li> <li>(bb) National Protected Area Expansion Strategy Focus areas;</li> <li>(cc) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</li> <li>(dd) Sites or areas identified in terms of an International Convention;</li> <li>(ee) Critical biodiversity areas (Terrestrial Type 1 and 2) as identified in systematic biodiversity plans</li> </ul> </li> </ul>	

	<p>adopted by the competent authority or in bioregional plans;</p> <ul style="list-style-type: none"> <li>(ff) Core areas in biosphere reserves; or</li> <li>(gg) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core area of a biosphere reserve; or</li> </ul> <p>ii. In urban areas:</p> <ul style="list-style-type: none"> <li>(aa) Areas zoned for use as public open space;</li> <li>(bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose; or</li> <li>(cc) Natural heritage sites.</li> </ul>	<p><b>(f) In Western Cape:</b></p> <ul style="list-style-type: none"> <li>i. All areas outside urban areas:             <ul style="list-style-type: none"> <li>(aa) Areas containing indigenous vegetation;</li> <li>(bb) Areas on the estuary side of the development setback line or in an estuarine functional zone where no such setback line has been determined.;</li> </ul> </li> </ul> <p>or</p>
--	---	--

		<p>ii. In urban areas:</p> <ul style="list-style-type: none"> <li>(aa) Areas zoned for conservation use; or</li> <li>(bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority.</li> </ul>
<p>19.</p>	<p>The expansion of runways or aircraft landing strips where the expanded runways or aircraft landing strips will be longer than 1,4 kilometres in length.</p>	<p>(a) <b>In Free State, Limpopo, Mpumalanga and Northern Cape provinces:</b></p> <ul style="list-style-type: none"> <li>i. In an estuary;</li> <li>ii. Outside urban areas, in: <ul style="list-style-type: none"> <li>(aa) A protected area identified in terms of NEMPAA, excluding conservancies;</li> <li>(bb) National Protected Area Expansion Strategy Focus areas;</li> <li>(cc) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</li> <li>(dd) Sites or areas identified in terms of an International Convention;</li> <li>(ee) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the</li> </ul> </li> </ul>

		<p>competent authority or in bioregional plans;</p> <ul style="list-style-type: none"> <li>(ff) Core areas in biosphere reserves;</li> <li>(gg) Areas within 10 kilometres from national parks and world heritage sites and 5 kilometres from any other protected area identified in terms of NEMPAA or from the core area of a biosphere reserve;</li> <li>(hh) Areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined; or</li> <li>(ii) Areas on the watercourse side of the development setback line or within 100 metres from the edge of a watercourse where no such setback line has been determined; or</li> </ul> <p>iii. Inside urban areas:</p> <ul style="list-style-type: none"> <li>(aa) Areas zoned for use as public open space; or</li> <li>(bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose.</li> </ul>		
--	--	---	--	--

		<p><b>(b) In Eastern Cape:</b></p> <ul style="list-style-type: none"> <li>i. In an estuarine functional zone;</li> <li>ii. Outside urban areas, in:             <ul style="list-style-type: none"> <li>(aa) A protected area identified in terms of NEMPAA, excluding conservancies;</li> <li>(bb) National Protected Area Expansion Strategy Focus areas;</li> <li>(cc) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</li> <li>(dd) Sites or areas identified in terms of an International Convention;</li> <li>(ee) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</li> <li>(ff) Core areas in biosphere reserves;</li> <li>(gg) Areas within 10 kilometres from national parks and world heritage sites and 5 kilometres from any other protected area identified in terms of NEMPAA or from the core area of a biosphere</li> </ul> </li> </ul>		
--	--	---	--	--

	<p>reserve;</p> <p>(hh) Areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined; or</p> <p>(ii) Areas on the watercourse side of the development setback line or within 100 metres from the edge of a watercourse where no such setback line has been determined; or</p> <p>iii. Inside urban areas:</p> <p>(aa) Areas zoned for use as public open space; or</p> <p>(bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose.</p>	<p><b>(c) In Gauteng:</b></p> <p>i. A protected area identified in terms of NEMPAA, excluding conservancies;</p> <p>ii. National Protected Area Expansion Strategy Focus Areas;</p> <p>iii. Gauteng Protected Area Expansion Priority Areas;</p>
--	--	--

	<p>iv. Sites identified as Critical Biodiversity Areas (CBAs) and Ecological Support Areas (ESAs) in the Gauteng Conservation Plan or in bioregional plans;</p> <p>v. Sites identified within threatened ecosystems listed in terms of the National Environmental Management Act: Biodiversity Act (Act No. 10 of 2004);</p> <p>vi. Sensitive areas identified in an environmental management framework adopted by relevant environmental authority;</p> <p>vii. Sites identified as high potential agricultural land in terms of Gauteng Agricultural Potential Atlas;</p> <p>viii. Sites or areas identified in terms of an International Convention</p> <p>ix. Sites managed as protected areas by provincial authorities, or declared as nature reserves in terms of the Nature Conservation Ordinance (Ordinance 12 of 1983) or the National Environmental Management: Protected Areas Act (Act No. 57 of 2003);</p> <p>x. Sites designated as nature reserves within municipal SDFs;</p> <p>xi. Sites zoned for a conservation or public open space or equivalent zoning; or</p>	
--	--	--



xii.	Important Bird and Biodiversity Areas	
(d)	In KwaZulu-Natal:	
i.	Community Conservation Areas;	
ii.	Biodiversity Stewardship Programme Biodiversity Agreement areas;	
iii.	In an estuarine functional zone;	
iv.	A protected area identified in terms of NEMPAA, excluding conservancies;	
v.	World Heritage Sites;	
vi.	Sites or areas identified in terms of an International Convention;	
vii.	Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;	
viii.	Core areas in biosphere reserves;	
ix.	Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose;	
x.	Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core of a	

		<p>biosphere reserve;</p> <p>xi. Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</p> <p>xii. Outside urban areas:</p> <p>(aa) Areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined; or</p> <p>(bb) Areas within 100 metres from the edge of a watercourse; or</p> <p>xiii. In urban areas:</p> <p>(aa) Areas zoned for use as public open space; or</p> <p>(bb) Areas seawards of the development setback line or within 100m high-water mark of the sea if no such development setback line is determined.</p> <p>(e) <b>In North West :</b></p> <p>i. Outside urban areas, in:</p> <p>(aa) A protected area identified in terms of NEMPAA;</p> <p>(bb) National Protected Area Expansion Strategy Focus areas;</p>	
--	--	--	--

	<p>(cc) World Heritage Sites;</p> <p>(dd) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</p> <p>(ee) Sites or areas identified in terms of an International Convention;</p> <p>(ff) Critical biodiversity areas (Terrestrial Type 1 and 2) as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</p> <p>(gg) Core areas in biosphere reserves;</p> <p>(hh) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core area of a biosphere reserve; or</p> <p>(ii) Areas on the watercourse side of the development setback line or within 100 metres from the edge of a watercourse where no such setback line has been determined.</p>		
--	--	--	--

		<p><b>(f) In Western Cape:</b></p> <p>i. All areas outside urban areas.</p>	
<p>20.</p>	<p>The expansion and related operation of above ground cableways and funiculars where the development footprint will be increased.</p>	<p><b>(a) In Free State, Limpopo, Mpumalanga and Northern Cape:</b></p> <p>i. In an estuary;</p> <p>ii. All areas outside urban areas; or</p> <p>iii. In urban areas:</p> <p>(aa) Areas zoned for use as public open space;</p> <p>(bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose;</p> <p>(cc) Areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined; or</p> <p>(dd) Areas on the watercourse side of the development setback line or within 100 metres from the edge of a watercourse where no such setback line has been determined.</p>	

	<p><b>(b) In Eastern Cape:</b></p> <ul style="list-style-type: none"> <li>i. In an estuarine functional zone;</li> <li>ii. All areas outside urban areas; or</li> <li>iii. In urban areas: <ul style="list-style-type: none"> <li>(aa) Areas zoned for use as public open space;</li> <li>(bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose;</li> <li>(cc) Areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined; or</li> <li>(dd) Areas on the watercourse side of the development setback line or within 100 metres from the edge of a watercourse where no such setback line has been determined.</li> </ul> </li> </ul>	
	<p><b>(c) In Gauteng:</b></p> <ul style="list-style-type: none"> <li>i. A protected area identified in terms of NEMPAA, excluding conservancies;</li> <li>ii. Sites identified as Critical Biodiversity Areas (CBAs) and</li> </ul>	

		<p>Ecological Support Areas (ESAs) in the Gauteng Conservation Plan or in bioregional plans;</p> <ul style="list-style-type: none"> <li>iii. Sites or areas identified in terms of an International Convention;</li> <li>iv. Sites managed as protected areas by provincial authorities, or declared as nature reserves in terms of the Nature Conservation Ordinance (Ordinance 12 of 1983) or the National Environmental Management: Protected Areas Act (Act No. 57 of 2003);</li> <li>v. Sites designated as nature reserves within municipal SDFs;</li> <li>vi. Sites zoned for a conservation or public open space or equivalent zoning; or</li> <li>vii. Important Bird and Biodiversity Areas.</li> </ul> <p><b>(d) In KwaZulu-Natal:</b></p> <ul style="list-style-type: none"> <li>i. All areas outside urban areas; or</li> <li>ii. In urban areas: <ul style="list-style-type: none"> <li>(aa) In an estuarine functional zone;</li> <li>(bb) A protected area identified in terms of NEMPAA, excluding conservancies;</li> <li>(cc) Critical biodiversity areas as identified in systematic</li> </ul> </li> </ul>	
--	--	---	--

	<p>biodiversity plans adopted by the competent authority or in bioregional plans;</p> <p>(dd) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</p> <p>(ee) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose;</p> <p>(ff) Areas zoned for use as public open space;</p> <p>(gg) Areas on the watercourse side of the development setback line or within 100 metres from the edge of a watercourse where no such setback line has been determined;</p> <p>(hh) Areas seawards of the development setback line or within 100 metres from the high-water mark of the sea if no such development setback line is determined; or</p> <p>(ii) Areas within 500 metres from protected areas identified in terms of NEMPAA.</p>	
--	---	--

		<p><b>(e) In North West :</b></p> <p>i. Outside urban areas, in:</p> <p>(aa) A protected area identified in terms of NEMPAA;</p> <p>(bb) National Protected Area Expansion Strategy Focus areas;</p> <p>(cc) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</p> <p>(dd) Sites or areas identified in terms of an International Convention;</p> <p>(ee) Critical biodiversity areas (Type 1 and 2) as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</p> <p>(ff) Core areas in biosphere reserves; or</p> <p>(gg) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core areas of a biosphere reserve; or</p> <p>ii. Inside urban areas:</p> <p>(aa) Areas zoned for use as public open space; or</p>		
--	--	---	--	--



		<p>(bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority, or zoned for a conservation purpose.</p>
	<p>21. The expansion of tracks or routes for the testing, recreational use or outdoor racing of motor powered vehicles excluding conversion of existing tracks or routes for the testing, recreational use or outdoor racing of motor powered vehicles, where the development footprint will be expanded.</p>	<p><b>(f) In Western Cape</b></p> <p>i. All areas outside urban areas;</p> <p><b>(a) In Free State, Limpopo and Mpumalanga provinces:</b></p> <p>i. Outside urban areas, in:</p> <p>(aa) A protected area identified in terms of NEMPAA, excluding conservancies;</p> <p>(bb) National Protected Area Expansion Strategy Focus areas;</p> <p>(cc) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</p> <p>(dd) Sites or areas identified in terms of an International Convention;</p> <p>(ee) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</p>

	<p>(ff) Core areas in biosphere reserves;</p> <p>(gg) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core area of a biosphere reserve; or</p> <p>(hh) Areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined; or</p> <p>ii. In urban areas:</p> <p>(aa) Areas zoned for use as public open space; or</p> <p>(bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose.</p>	
	<p><b>(b) In Eastern Cape:</b></p> <p>i. In an estuarine functional zone; or</p> <p>ii. Within areas seaward of the development setback line or within 1 kilometre of the high-water mark if no setback line is determined;</p>	
	<p><b>(c) In Gauteng:</b></p>	

	<ul style="list-style-type: none"> <li>i. A protected area identified in terms of NEMPAA, excluding conservancies;</li> <li>ii. Gauteng Protected Area Expansion Priority Areas;</li> <li>iii. Sites identified as Critical Biodiversity Areas (CBAs) and Ecological Support Areas (ESAs) in the Gauteng Conservation Plan or in bioregional plans;</li> <li>iv. Sensitive areas identified in an environmental management framework adopted by relevant environmental authority;</li> <li>v. Sites or areas identified in terms of an International Convention;</li> <li>vi. Sites managed as protected areas by provincial authorities, or declared as nature reserves in terms of the Nature Conservation Ordinance (Ordinance 12 of 1983) or the National Environmental Management: Protected Areas Act (Act No. 57 of 2003);</li> <li>vii. Sites designated as nature reserves within municipal SDFs; or</li> <li>viii. Sites zoned for conservation or public open space or equivalent zoning.</li> </ul>	
	<p><b>(d) In KwaZulu-Natal:</b></p>	

	<ul style="list-style-type: none"> <li>i. In an estuarine functional zone;</li> <li>ii. Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</li> <li>iii. Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose;</li> <li>iv. Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</li> <li>v. Outside urban areas:             <ul style="list-style-type: none"> <li>(aa) Within areas of indigenous vegetation; or</li> <li>(bb) In areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined; or</li> </ul> </li> <li>vi. In urban areas:             <ul style="list-style-type: none"> <li>(aa) In areas seawards of the development setback line or within 100 metres from the high-water mark of the sea if no such development setback line is determined;</li> <li>(bb) Areas within 32 metres from the edge of a</li> </ul> </li> </ul>	
--	--	--

	<p>watercourse; or</p> <p>(cc) Areas zoned for use as public open space.</p>	
	<p><b>(e) In Northern Cape:</b></p> <p>iii. In an estuary; or</p> <p>iv. Within areas seaward of the development setback line or within 1 kilometre of the high-water mark if no setback line is determined;</p>	
	<p><b>(f) In North West :</b></p> <p>i. Outside urban areas, in:</p> <p>(aa) A protected area identified in terms of NEMPAA;</p> <p>(bb) National Protected Area Expansion Strategy Focus areas;</p> <p>(cc) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</p> <p>(dd) Sites or areas identified in terms of an International Convention;</p> <p>(ee) Critical biodiversity areas (Type 1 and 2) as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</p>	

	<p>(ff) Core areas in biosphere reserves; or</p> <p>(gg) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core area of a biosphere reserve; or</p> <p>ii. In urban areas:</p> <p>(aa) Areas zoned for use as public open space;</p> <p>(bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose; or</p> <p>(cc) Natural heritage sites.</p>	
	<p><b>(g) In Western Cape:</b></p> <p>i. Areas on the estuary side of the development setback line or in an estuarine functional zone where no such setback line has been determined;</p> <p>ii. Seawards of the development setback line or within 200 metres from the high water mark of the sea if no such development setback line is determined; or</p> <p>iii. Areas of indigenous vegetation outside urban areas.</p>	
22.	<b>(a) Free State, Mpumalanga and Northern Cape provinces:</b>	The expansion of facilities or

	<p>infrastructure for the storage, or storage and handling of a dangerous good, where such storage facilities or infrastructure will be expanded by 30 cubic metres or more but no more than 80 cubic metres.</p>	<ul style="list-style-type: none"> <li>i. In an estuary;</li> <li>ii. Outside urban areas, in:             <ul style="list-style-type: none"> <li>(aa) A protected area identified in terms of NEMPAA, excluding conservancies;</li> <li>(bb) National Protected Area Expansion Strategy Focus areas;</li> <li>(cc) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</li> <li>(dd) Sites or areas identified in terms of an International Convention;</li> <li>(ee) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</li> <li>(ff) Core areas in biosphere reserves;</li> <li>(gg) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core area of a biosphere reserve;</li> <li>(hh) Areas seawards of the development setback line</li> </ul> </li> </ul>	
--	---	--	--

	<p>or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined;</p> <p>(ii) Areas on the watercourse side of the development setback line or within 100 metres from the edge of a watercourse where no such setback line has been determined; or</p> <p>(jj) Within 500 metres of an estuary; or</p> <p>iii. In urban areas:</p> <p>(aa) Areas zoned for use as public open space;</p> <p>(bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose;</p> <p>(cc) Areas on the watercourse side of the development setback line or within 100 metres from the edge of a watercourse where no such setback line has been determined; or</p> <p>(dd) Within 500 metres of an estuary.</p>	
	<p><b>(b) In Eastern Cape:</b></p> <p>i. In an estuarine functional zone;</p>	



	<p>ii. Outside urban areas, in:</p> <p>(aa) A protected area identified in terms of NEMPAA, excluding conservancies;</p> <p>(bb) National Protected Area Expansion Strategy Focus areas;</p> <p>(cc) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</p> <p>(dd) Sites or areas identified in terms of an International Convention;</p> <p>(ee) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</p> <p>(ff) Core areas in biosphere reserves;</p> <p>(gg) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core area of a biosphere reserve;</p> <p>(hh) Areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is</p>	
--	---	--

	<p>determined;</p> <ul style="list-style-type: none"> <li>(ii) Areas on the watercourse side of the development setback line or within 100 metres from the edge of a watercourse where no such setback line has been determined; or</li> <li>(jj) Within 500 metres of an estuarine functional zone; or</li> <li>iii. In urban areas:             <ul style="list-style-type: none"> <li>(aa) Areas zoned for use as public open space;</li> <li>(bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose;</li> <li>(cc) Areas on the watercourse side of the development setback line or within 100 metres from the edge of a watercourse where no such setback line has been determined; or</li> <li>(dd) Within 500 metres of an estuarine functional zone.</li> </ul> </li> </ul> <p><b>(c) In Gauteng:</b></p> <ul style="list-style-type: none"> <li>i. A protected area identified in terms of NEMPAA, excluding conservancies;</li> </ul>	
--	--	--

		<ul style="list-style-type: none"> <li>ii. National Protected Area Expansion Strategy Focus Areas;</li> <li>iii. Gauteng Protected Area Expansion Priority Areas;</li> <li>iv. Sites identified as Critical Biodiversity Areas (CBAs) and Ecological Support Areas (ESAs) in the Gauteng Conservation Plan or in bioregional plans;</li> <li>v. Sites identified within threatened ecosystems listed in terms of the National Environmental Management Act: Biodiversity Act (Act No. 10 of 2004);</li> <li>vi. Sensitive areas identified in an environmental management framework adopted by relevant environmental authority;</li> <li>vii. Sites identified as high potential agricultural land in terms of Gauteng Agricultural Potential Atlas;</li> <li>viii. Important Bird and Biodiversity Area (IBA);</li> <li>ix. Sites or areas identified in terms of an International Convention;</li> <li>x. Sites managed as protected areas by provincial authorities, or declared as nature reserves in terms of the Nature Conservation Ordinance (Ordinance 12 of 1983) or the National Environmental Management: Protected</li> </ul>	
--	--	---	--

	<p>Areas Act (Act No. 57 of 2003);</p> <p>xi. Sites designated as nature reserves within municipal SDFs; or</p> <p>xii. Sites zoned for conservation or public open space or equivalent zoning.</p>	
	<p><b>(d) In KwaZulu-Natal:</b></p> <p>i. Trans-frontier protected areas managed under international conventions;</p> <p>ii. Community Conservation Areas;</p> <p>iii. Biodiversity Stewardship Programme Biodiversity Agreement areas;</p> <p>iv. World Heritage Sites;</p> <p>v. In an estuarine functional zone;</p> <p>vi. Within 500 metres of an estuarine functional zone;</p> <p>vii. A protected area identified in terms of NEMPAA, excluding conservancies;</p> <p>viii. Sites or areas identified in terms of an International Convention;</p> <p>ix. Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</p>	

		<p>x. Core areas in biosphere reserves;</p> <p>xi. Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose;</p> <p>xii. Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</p> <p>xiii. Outside urban areas:</p> <p>(aa) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core areas of a biosphere reserve;</p> <p>(bb) Areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined; or</p> <p>(cc) Areas within 100 metres from the edge of a watercourse; or</p> <p>xiv. In urban areas:</p> <p>(aa) Areas zoned for use as public open space; or</p> <p>(bb) Areas seawards of the development setback line</p>	
--	--	--	--

	<p>or within 100 metres from the high-water mark of the sea if no such development setback line is determined.</p>	
	<p><b>(e) In Limpopo</b></p> <p>i. All areas.</p>	
	<p><b>(f) In North West :</b></p> <p>i. Outside urban areas.</p>	
	<p><b>(g) In Western Cape:</b></p> <p>i. All areas outside urban areas; or</p> <p>ii. Areas inside urban areas, the following:</p> <p>(aa) Areas seawards of the development setback line or within 200 metres from the high-water mark of the sea if no such development setback line is determined;</p> <p>(bb) Areas on the watercourse side of the development setback line or within 100 metres from the edge of a watercourse where no such setback line has been determined; or</p> <p>(cc) Areas on the estuary side of the development setback line or in an estuarine functional zone</p>	

23.	<p>The expansion of—</p> <p>(i) canals where the canal is expanded by 10 square metres or more in size;</p> <p>(ii) channels where the channel is expanded by 10 square metres or more in size;</p> <p>(iii) bridges where the bridge is expanded by 10 square metres or more in size;</p>	<p>where no such setback line has been determined.</p>	
		<p>(a) <b>Free State, Limpopo, Mpumalanga and Northern Cape:</b></p> <p>i. In an estuary;</p> <p>ii. Outside urban areas, in:</p> <p>(aa) A protected area identified in terms of NEMPAA, excluding conservancies;</p> <p>(bb) National Protected Area Expansion Strategy Focus areas;</p> <p>(cc) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</p>	

	<p>(iv) dams where the dam is expanded by 10 square metres or more in size;</p> <p>(v) weirs where the weir is expanded by 10 square metres or more in size;</p> <p>(vi) bulk storm water outlet structures where the structure is expanded by 10 square metres or more in size;</p> <p>(vii) marinas where the marina is expanded by 10 square metres or more in size;</p> <p>(viii) jetties where the jetty is expanded by 10 square metres or more in size;</p> <p>(ix) slipways where the slipway is expanded by 10 square metres or more in size;</p>	<p>(dd) Sites or areas identified in terms of an International Convention;</p> <p>(ee) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</p> <p>(ff) Core areas in biosphere reserves;</p> <p>(gg) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core area of a biosphere reserve; or</p> <p>(hh) Areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined; or</p> <p>iii. Inside urban areas:</p> <p>(aa) Areas zoned for use as public open space; or</p> <p>(bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose.</p>	
		<p><b>(b) In Eastern Cape:</b></p>	



	<p>(x) buildings where the building is expanded by 10 square metres or more in size;</p> <p>(xi) boardwalks where the boardwalk is expanded by 10 square metres or more in size; or</p> <p>(xii) infrastructure or structures where the physical footprint is expanded by 10 square metres or more;</p> <p>where such development occurs—</p> <p>(a) within a watercourse;</p> <p>(b) in front of a development setback adopted in the prescribed manner; or</p> <p>(c) if no development setback has been adopted, within 32 metres of a</p>	<p>i. In an estuarine functional zone;</p> <p>ii. Outside urban areas, in:</p> <p>(aa) A protected area identified in terms of NEMPAA, excluding conservancies;</p> <p>(bb) National Protected Area Expansion Strategy Focus areas;</p> <p>(cc) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</p> <p>(dd) Sites or areas identified in terms of an International Convention;</p> <p>(ee) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</p> <p>(ff) Core areas in biosphere reserves;</p> <p>(gg) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core area of a biosphere reserve; or</p> <p>(hh) Areas seawards of the development setback line</p>	
--	---	--	--

	<p>watercourse, measured from the edge of a watercourse;</p> <p>excluding the expansion of infrastructure or structures within existing ports or harbours that will not increase the development footprint of the port or harbour.</p>	<p>or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined; or</p> <p>iii. Inside urban areas:</p> <p>(aa) Areas zoned for use as public open space; or</p> <p>(c) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose.</p> <p><b>(d) In Gauteng:</b></p> <p>i. A protected area identified in terms of NEMPAA, excluding conservancies;</p> <p>ii. National Protected Area Expansion Strategy Focus Areas;</p> <p>iii. Gauteng Protected Area Expansion Priority Areas;</p> <p>iv. Sites identified as Critical Biodiversity Areas (CBAs) and Ecological Support Areas (ESAs) in the Gauteng Conservation Plan or in bioregional plans;</p> <p>v. Sites identified within threatened ecosystems listed in terms of the National Environmental Management Act: Biodiversity Act (Act No. 10 of 2004);</p> <p>vi. Sensitive areas identified in an environmental</p>	
--	--	--	--

	<p>management framework adopted by relevant environmental authority;</p> <p>vii. Sites or areas identified in terms of an International Convention;</p> <p>viii. Sites managed as protected areas by provincial authorities, or declared as nature reserves in terms of the Nature Conservation Ordinance (Ordinance 12 of 1983) or the National Environmental Management: Protected Areas Act (Act No. 57 of 2003); or</p> <p>ix. Sites designated as nature reserves within municipal SDFs;</p> <p>x. Sites zoned for conservation or public open space or equivalent zoning.</p>	<p><b>(e) In KwaZulu-Natal:</b></p> <p>i. Community Conservation Areas;</p> <p>ii. Biodiversity Stewardship Programme Biodiversity Agreement areas;</p> <p>iii. In an estuarine functional zone;</p> <p>iv. A protected area identified in terms of NEMPAA, excluding conservancies;</p> <p>v. World Heritage Sites;</p>
--	---	--

		<ul style="list-style-type: none"> <li>vi. Sites or areas identified in terms of an International Convention;</li> <li>vii. Critical biodiversity areas or ecological support areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</li> <li>viii. Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</li> <li>ix. Core areas in biosphere reserves;</li> <li>x. Outside urban areas:             <ul style="list-style-type: none"> <li>(aa) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core area of a biosphere reserve; or</li> <li>(bb) Areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined; or</li> </ul> </li> <li>xi. In urban areas:             <ul style="list-style-type: none"> <li>(aa) Areas zoned for use as public open space;</li> <li>(bb) Areas designated for conservation use in Spatial</li> </ul> </li> </ul>	
--	--	---	--

	<p>Development Frameworks adopted by the competent authority, zoned for a conservation purpose; or</p> <p>(cc) Areas seawards of the development setback line or within 100 metres from the high-water mark of the sea if no such development setback line is determined.</p>	
	<p><b>(f) In North West:</b></p> <p>i. Outside urban areas, in:</p> <p>(aa) A protected area identified in terms of NEMPAA;</p> <p>(bb) National Protected Area Expansion Strategy Focus areas;</p> <p>(cc) World Heritage Sites;</p> <p>(dd) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</p> <p>(ee) Sites or areas identified in terms of an International Convention;</p> <p>(ff) Critical biodiversity areas or ecosystem service areas as identified in systematic biodiversity plans</p>	

	<p>adopted by the competent authority or in bioregional plans;</p> <ul style="list-style-type: none"> <li>(gg) Core areas in biosphere reserves; or</li> <li>(hh) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core area of a biosphere reserve; or</li> </ul> <p>ii. Inside urban areas:</p> <ul style="list-style-type: none"> <li>(aa) Areas zoned for use as public open space; or</li> <li>(bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose.</li> </ul>	
	<p><b>(g) In Western Cape:</b></p> <ul style="list-style-type: none"> <li>i. Outside urban areas, in: <ul style="list-style-type: none"> <li>(aa) A protected area identified in terms of NEMPAA, excluding conservancies;</li> <li>(bb) National Protected Area Expansion Strategy Focus areas;</li> <li>(cc) World Heritage Sites;</li> <li>(dd) Sensitive areas as identified in an environmental</li> </ul> </li> </ul>	

		<p>management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</p> <p>(ee) Sites or areas listed in terms of an International Convention;</p> <p>(ff) Critical biodiversity areas or ecosystem service areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</p> <p>(gg) Core areas in biosphere reserves; or</p> <p>(hh) Areas on the estuary side of the development setback line or in an estuarine functional zone where no such setback line has been determined.</p>	
24.	The expansion and related operation of facilities of any size for any form of aquaculture.	<p>(a) In Free State, Gauteng, Limpopo, Mpumalanga, Northern Cape and North West:</p> <p>i. In an estuary;</p> <p>ii. In a Protected Area identified in the NEMPAA; or</p> <p>iii. Areas on the watercourse side of the development setback line or within 100 metres from the edge of a watercourse where no such setback line has been determined.</p>	

	<p><b>(b) In Eastern Cape:</b></p> <ul style="list-style-type: none"> <li>i. In an estuarine functional zone;</li> <li>ii. In a Protected Area identified in the NEMPAA; or</li> <li>iii. Areas on the watercourse side of the development setback line or within 100 metres from the edge of a watercourse where no such setback line has been determined.</li> </ul>	
	<p><b>(c) In KwaZulu-Natal:</b></p> <ul style="list-style-type: none"> <li>i. Trans-frontier protected areas managed under international conventions;</li> <li>ii. Community Conservation Areas;</li> <li>iii. Biodiversity Stewardship Programme Biodiversity Agreement areas;</li> <li>iv. In an estuarine functional zone;</li> <li>v. In a Protected Area identified in the NEMPAA;</li> <li>vi. World Heritage Sites;</li> <li>vii. Areas on the watercourse side of the development setback line or within 100 metres from the edge of a watercourse where no such setback line has been determined;</li> <li>viii. Sites or areas identified in terms of an International</li> </ul>	



		<p>Convention;</p> <p>ix. Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</p> <p>x. Core areas in biosphere reserves;</p> <p>xi. Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose; or</p> <p>xii. Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority.</p>	
25.	The expansion and related operation of zip-lines or foefie-	<p>(d) <b>In Western Cape:</b></p> <p>i. Areas on the estuary side of the development setback line or in an estuarine functional zone where no such setback line has been determined;</p> <p>ii. In a Protected area identified in terms of NEMPAA; and</p> <p>iii. In an aquatic critical biodiversity area.</p> <p>(a) <b>In Eastern Cape, Free State, Limpopo, Mpumalanga, and Northern Cape:</b></p>	

	<p>slides, where the zip-line or foefie-slide is expanded by 100 metres in length or more.</p>	<ul style="list-style-type: none"> <li>i. All areas outside urban areas; or</li> <li>ii. In urban areas: <ul style="list-style-type: none"> <li>(aa) Areas zoned for use as public open space;</li> <li>(bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose;</li> <li>(cc) Areas on the watercourse side of the development setback line or within 100 metres from the edge of a watercourse where no such setback line has been determined; or</li> <li>(dd) Areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined.</li> </ul> </li> </ul>	
		<ul style="list-style-type: none"> <li>(b) <b>In Gauteng</b> <ul style="list-style-type: none"> <li>i. A protected area identified in terms of NEMPAA, excluding conservancies;</li> <li>ii. Sites identified as Critical Biodiversity Areas (CBAs) and Ecological Support Areas (ESAs) in the Gauteng</li> </ul> </li> </ul>	

	<p>Conservation Plan or in bioregional plans;</p> <p>iii. Sites or areas identified in terms of an International Convention;</p> <p>iv. Sites managed as protected areas by provincial authorities, or declared as nature reserves in terms of the Nature Conservation Ordinance (Ordinance 12 of 1983) or the National Environmental Management: Protected Areas Act (Act No. 57 of 2003);</p> <p>v. Sites designated as nature reserves within municipal SDFs;</p> <p>vi. Sites zoned for a conservation or public open space or equivalent zoning; or</p> <p>vii. Important Bird and Biodiversity Areas.</p>	<p>(c) <b>In KwaZulu-Natal:</b></p> <p>i. All areas outside urban areas; or</p> <p>ii. In urban areas:</p> <p>(aa) A protected area identified in terms of NEMPAA, excluding conservancies;</p> <p>(bb) In an estuarine functional zone;</p> <p>(cc) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent</p>
--	---	--

	<p>authority or in bioregional plans;</p> <p>(dd) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</p> <p>(ee) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose;</p> <p>(ff) Areas zoned for use as public open space;</p> <p>(gg) Areas on the watercourse side of the development setback line or within 100 metres from the edge of a watercourse where no such setback line has been determined;</p> <p>(hh) Areas seawards of the development setback line or within 100 metres from the high-water mark of the sea if no such development setback line is determined; or</p> <p>(ii) Areas within 500 metres from protected areas identified in terms of NEMPAA.</p>	
	<p>(d) <b>In North West :</b></p>	

		<p>i. All areas outside urban areas; or</p> <p>ii. In urban areas:</p> <p>(aa) Areas zoned for use as public open space;</p> <p>(bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose;</p> <p>(cc) A protected area identified in terms of NEMPAA;</p> <p>(dd) Critical biodiversity areas (Type 1 and 2) as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</p> <p>(ee) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core of a biosphere reserve; or</p> <p>(ff) Natural heritage sites.</p>	
<p>26.</p>	<p>Phased activities for all activities—</p> <p>i. listed in this Notice and as it applies to a specific geographical area, which</p>	<p>All the areas as identified for the specific activities listed in this Notice.</p>	

	<p>commenced on or after the effective date of this Notice; or</p> <p>ii. similarly listed in in any of the previous NEMA notices, and as it applies to a specific geographical area, which commenced on or after the effective date of such previous NEMA Notices—</p> <p>where any phase of the activity may be below a threshold but where a combination of the phases, including expansions or extensions, will exceed a specified threshold; —</p> <p>excluding the following activities listed in this Notice—7; 8; 11;</p>		
--	---	--	--







Printed by and obtainable from the Government Printer, Bosman Street, Private Bag X85, Pretoria, 0001

Publications: Tel: (012) 748 6052, 748 6053, 748 6058

Advertisements: Tel: (012) 748 6205, 748 6208, 748 6209, 748 6210, 748 6211

Subscriptions: Tel: (012) 748 6054, 748 6055, 748 6057

Gedruk deur en verkrygbaar by die Staatsdrukker, Bosmanstraat, Privaatsak X85, Pretoria, 0001

Publikasies: Tel: (012) 748 6052, 748 6053, 748 6058

Advertensies: Tel: (012) 748 6205, 748 6208, 748 6209, 748 6210, 748 6211

Subskripsies: Tel: (012) 748 6054, 748 6055, 748 6057

## APPENDIX C: CATEGORIES OF DEVELOPMENT AS PER OBERHOLZER (2005)

<i>Box 2: Key to Categories of Development</i>
<p><b>Category 1 development:</b> e.g. nature reserves, nature-related recreation, camping, picnicking, trails and minimal visitor facilities.</p> <p><b>Category 2 development:</b> e.g. low-key recreation / resort / residential type development, small-scale agriculture / nurseries, narrow roads and small-scale infrastructure.</p> <p><b>Category 3 development:</b> e.g. low density resort / residential type development, golf or polo estates, low to medium-scale infrastructure.</p> <p><b>Category 4 development:</b> e.g. medium density residential development, sports facilities, small-scale commercial facilities / office parks, one-stop petrol stations, light industry, medium-scale infrastructure.</p> <p><b>Category 5 development:</b> e.g. high density township / residential development, retail and office complexes, industrial facilities, refineries, treatment plants, power stations, wind energy farms, power lines, freeways, toll roads, large-scale infrastructure generally. Large-scale development of agricultural land and commercial tree plantations. Quarrying and mining activities with related processing plants.</p>

## APPENDIX D: LEVELS OF VISUAL IMPACT AS PER OBERHOLZER (2005)

<i>Box 3: Key to Categories of Issues</i>
<p>Very high visual impact expected: Potentially significant effect on wilderness quality or scenic resources; Fundamental change in the visual character of the area; Establishes a major precedent for development in the area.</p>
<p>High visual impact expected: Potential intrusion on protected landscapes or scenic resources; Noticeable change in visual character of the area; Establishes a new precedent for development in the area.</p>
<p>Moderate visual impact expected: Potentially some affect on protected landscapes or scenic resources; Some change in the visual character of the area; Introduces new development or adds to existing development in the area.</p>
<p>Minimal visual impact expected: Potentially low level of intrusion on landscapes or scenic resources; Limited change in the visual character of the area; Low-key development, similar in nature to existing development.</p>

## APPENDIX E: KEY APPROACHES AND METHODS OBERHOLZER (2005)

*Box 6: Key to Approaches and Methods***Level 1 assessment:****Approach:**

Visual screening report by EIA Practitioner / visual specialist.

**Method:**

Identification of issues raised in scoping phase, and site visit;

Brief comment on visual influence of the project, and assessment of expected impacts / benefits.

**Level 2 assessment:****Approach:**

Visual scoping report by visual specialist or competent professional.

**Method:**

Identification of issues raised in scoping phase, and site visit;

Description of the receiving environment and the proposed project;

Establishment of view catchment area and receptors;

Brief indication of potential visual impacts, and possible mitigation measures.

**Level 3 assessment:****Approach:**

Visual impact assessment report by visual specialist or competent professional/s.

Review by independent, experienced visual specialist (if required).

**Method:**

Identification of issues raised in scoping phase, and site visit;

Description of the receiving environment and the proposed project;

Establishment of view catchment area, view corridors, viewpoints and receptors;

Indication of potential visual impacts using established criteria;

Inclusion of potential lighting impacts at night;

Description of alternatives, mitigation measures and monitoring programmes.

**Level 4 assessment:****Approach:**

Visual impact assessment report by independent visual specialist.

Review by independent, experienced visual specialist (if required).

**Method:**

As per Level 3 assessment, plus complete 3D modeling and simulations, with and without mitigation.

## APPENDIX F: DETAILED IMPACT ASSESSMENT/MATRIX

The assessment of potential impacts was addressed in a standard manner to ensure that a wide range of impacts were comparable. The ranking criteria and rating scales were applied to all specialist studies for this project. The following methodology was used to rank these impacts. Clearly defined rating and rankings scales (Table 1 - Table 7) were used to assess the impacts associated with the proposed activities. The impacts identified by each specialist study and through public participation were combined into a single impact rating table for ease of assessment.

Each identified impact was assessed in terms of severity, spatial scale and duration (temporal scale). Consequence was then determined as follows:

Table 1: Severity or magnitude of impact

Insignificant/non-harmful (no loss of species / habitat)	1
Small/potentially harmful (replaceable loss with minimal effort)	2
Significant/slightly harmful (replaceable loss of species / habitat with great effort and investment)	3
Highly Significant/harmful (impact to human health or welfare / loss of species / habitat)	4
Extremely Significant /extremely harmful/within a regulated sensitive area (loss of human life / irreplaceable loss of Red Data species / conservation habitat)	5

Table 2: Spatial Scale - extent of area being impacting upon

Area specific (at impact site)	1
Whole site (entire surface right)	2
Local (within 5Km)	3
Regional/neighbouring areas (5 Km to 50 Km)	4
National	5

Table 3: Duration of activity

One day to one month (immediate - immediately reversible with minimal effort)	1
One month to one year (Short term - reversible)	2
One year to 10 years (medium term - difficult to reverse with effort)	3
Life of the activity (long term - very difficult to reverse with extensive effort)	4
Beyond life of the activity (permanent - not reversible)	5

Table 4: Frequency of activity - how often activity is undertaken

Improbable / almost never / Annually or less	1
Low probability / Very seldom / 6 monthly	2
Medium probability / Infrequent / Temporary / Monthly	3
Highly probable / Often / semi-permanent / Weekly	4
Definite / Always / permanent / Daily	5

Table 5: Frequency of incident/impact - how often activity impacts environment

Almost never/almost impossible/>20%	1
Very seldom/highly unlikely/>40%	2
Infrequent/unlikely/seldom/>60%	3
Often/regularly/likely/possible/>80%	4
Daily/highly likely/definitely/>100%	5

Table 6: Legal Issues - governance of activity by legislation

No legislation	1
Fully covered by legislation	5

Table 7: Detection - how quickly/easily impacts/risks of activity on environment, people and property are detected

Immediately (easier to mitigate)	1
Without much effort	2
Need some effort	3
Remote and difficult to observe	4
Covered (more difficult to mitigate)	5

$$\text{Consequence} = \text{Severity} + \text{Spatial Scale} + \text{Duration}$$

The risk of the activity was then calculated based on frequencies of the activity and impact, whether the activity is governed by legislation and how easily it can be detected:

$$\text{Likelihood} = \text{Frequency of Activity} + \text{Frequency of Impact} + \text{Legal issues} + \text{Detection}$$

The risk of each identified impact was then based on the product of consequence and likelihood.

$$\text{Risk} = \text{Consequence} \times \text{Likelihood}$$

Impacts were rated as either of high, moderate or low significance on the basis provided in Table 8. Each impact was also assessed in terms of the level to which there is an irreplaceable loss of resources and its degree of reversibility. The ratings as described in Table 9 and Table 10.

Table 8: Impact Significance Ratings

SIGNIFICANCE RATING	CLASS (NEGATIVE IMPACT)	CLASS (POSITIVE IMPACT)
1 - 55	(L) Low Significance	(L) Low Significance
56 - 169	(M) Moderate Significance	(M) Moderate Significance
170 - 600	(H) High Significance	(H) High Significance

Table 9: Irreplaceability of resource caused by impacts

No irreplaceable resources will be impacted (the affected resource is easy to replace/rehabilitate)	Low
Resources that will be impacted can be replaced, with effort	Medium
Project will destroy unique resources that cannot be replaced	High

Table 10: Reversibility of impacts

Low reversibility to non-reversible	Low
Moderate reversibility of impacts	Medium
High reversibility of impacts	High

It is important to note that for the VIA, the ratings in rating Table 7 had to be changed as indicated in Table 11 below. This is because from a visual aspect, if the activity can be seen immediately, it is a high negative impact as this is unwanted. However, if the activity is completely covered, the activity is difficult for a viewer to observe, and this is more preferable from a visual perspective.

Table 11: Detection - how quickly/easily impacts/risks of activity on environment, people and property are detected

Immediately (easier to mitigate)	5
Without much effort	4
Need some effort	3
Remote and difficult to observe	2
Covered (more difficult to mitigate)	1

It is also important to note that the duration of the presence of the PV Panels, Substations, transmission line and ancillary structures during the operational phase of the activity after mitigation was rated a “3 - One year to 10 years (medium term - difficult to reverse with effort)”. This rating was not based on the life span of the infrastructure but was rated on the difficulty to reverse the impact. After mitigation measures are implemented, it is most likely that the visual impact of the proposed development will be minimised. The impact will be minimised in terms of intensity/difficulty to reverse and not minimised based on years. Therefore the impacting rating was lowered from a 4 (before mitigation) to a 3 (after mitigation).

**APPENDIX E10: TRAFFIC ASSESSMENT**





K2021699383 (SOUTH AFRICA) (PTY) LTD.

---

# **LEPHALALE SOLAR PROJECT**

## **Transportation Study**

**Issue Date:** 11th August 2021

**Revision No:** 1

**Project No:** 16991

Zutari Red: 1001395-G040-REP-NN-007

Date:	11 <sup>th</sup> August 2021	
Document Title:	<b>Lephalale Solar Project</b> Transportation Study	
Revision Number:	1	
Author:	Merchandt Le Maitre (Pr. Tech Eng.)	
Signature:	 Pr. N°: 2018300094	Date: 11 <sup>th</sup> August 2021
Reviewed:	Richard Hirst (Pr Tech Eng.)	
Signature:	 Pr. N°: 2018300110	Date: 11 <sup>th</sup> August 2021
For:	K2021699383 (SOUTH AFRICA) (PTY) LTD.	
<p><b>Confidentiality Statement</b></p> <p>© <b>SiVEST SA (Pty) Ltd</b>  <b>All rights reserved</b></p> <p><i>Copyright is vested in SiVEST SA (Pty) Ltd in terms of the Copyright Act (Act 98 of 1978). This report is strictly confidential and is to be used exclusively by the recipient.</i></p> <p><i>Under no circumstances should this report, or information contained therein be distributed, reprinted, reproduced or transmitted in any form or by any means, electronic or mechanical, without the written consent of SiVEST SA (Pty) Ltd.</i></p>		

# EXECUTIVE SUMMARY

## Objective

The main objective of the 'Transportation Study' is to determine the impact/s of the proposed development on the area with respect to transportation and included these findings in the Environmental Impact Assessment (EIA). The assessment will comprise of a desktop assessment and will include preliminary transportation related matters arising during the construction phase, through the Operation & Maintenance Phase, up to and including the decommissioning phase of the development. The assessment of these phases, will take into account the transportation of normal and abnormal vehicles, which are made up of *inter alia*; - PV components, construction materials, equipment, construction workers and employees.

## Key Findings

We don't foresee any major risks with respect the proposed development and therefore include our recommendations below, to take note of prior to and during the detailed design and construction stages. It should however be noted that a number of recommendations were highlighted from previous projects and are therefore noted as important.

The development is located in close proximity to provincial roads. An existing access onto the facility already exists in the form of a farm access point, however, the access for the future facility expansions, could be upgraded or moved to a new position in order to accommodate the proposed adjusted land use.

The construction phase of this development will typically generate the highest number of additional vehicles. It will however be temporary and impacts are considered to be minimal / low.

Existing access from Road D2001 has sufficient sight distance in both directions and hence an upgrade to the existing access will be required from the Roads Agency Limpopo.

A number of mitigation measures are proposed to accommodate the development and to reduce the impact to the surrounding road network.

## Recommendations

With reference to this report, associated assessment and the findings made within, it is SiVEST's opinion that the Lephalale Solar Project and associated infrastructure will have a nominal impact on the existing traffic network. The project is therefore deemed acceptable from a transport perspective, provided the recommendations and mitigations measures in this report are implemented, and hence the Environmental Authorisation (EA) should be granted for the EIA application.

## DECLARATION BY SPECIALIST

I, MERCHANDT LE MAITRE, declare that –

- I act as the independent specialist in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- All the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.

Signature of Specialist:



Name of Company: SiVEST SA (PTY) Ltd

Date: 11<sup>th</sup> August 2021

**NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (ACT NO. 107 OF 1998) AND ENVIRONMENTAL IMPACT REGULATIONS, 2014 (AS AMENDED) - REQUIREMENTS FOR SPECIALIST REPORTS (APPENDIX 6)**

Regulation GNR 326 of 4 December 2014, as amended 7 April 2017, Appendix 6	Section of Report
1. (1) A specialist report prepared in terms of these Regulations must contain- a) details of- i. the specialist who prepared the report; and ii. the expertise of that specialist to compile a specialist report including a curriculum vitae;	Refer Section 4
b) a declaration that the specialist is independent in a form as may be specified by the competent authority;	Refer above
c) an indication of the scope of, and the purpose for which, the report was prepared;	Refer Section 3
(cA) an indication of the quality and age of base data used for the specialist report;	Refer Section 7.1
(cB) a description of existing impacts on the site, cumulative impacts of the proposed development and levels of acceptable change;	Refer Section 10 Refer Section 11
d) the date and season of the site investigation and the relevance of the season to the outcome of the assessment;	Refer Section 3
e) a description of the methodology adopted in preparing the report or carrying out the specialised process inclusive of equipment and modelling used;	Refer Section 3
f) details of an assessment of the specific identified sensitivity of the site related to the proposed activity or activities and its associated structures and infrastructure, inclusive of a site plan identifying site alternatives;	N/A
g) an identification of any areas to be avoided, including buffers;	N/A
h) a map superimposing the activity including the associated structures and infrastructure on the environmental sensitivities of the site including areas to be avoided, including buffers;	N/A
i) a description of any assumptions made and any uncertainties or gaps in knowledge;	Refer Section 5
j) a description of the findings and potential implications of such findings on the impact of the proposed activity, (including identified alternatives on the environment) or activities;	Refer Section 7 Refer Section 12
k) any mitigation measures for inclusion in the EMPr;	Refer Section 10
l) any conditions for inclusion in the environmental authorisation;	Refer Section 10
m) any monitoring requirements for inclusion in the EMPr or environmental authorisation;	Refer Section 10
n) a reasoned opinion- i. (as to) whether the proposed activity, activities or portions thereof should be authorised; (iA) regarding the acceptability of the proposed activity or activities; and ii. if the opinion is that the proposed activity, activities or portions thereof should be authorised, any avoidance,	Refer Section 12

management and mitigation measures that should be included in the EMPr, and where applicable, the closure plan;	
o) a description of any consultation process that was undertaken during the course of preparing the specialist report;	N/A
p) a summary and copies of any comments received during any consultation process and where applicable all responses thereto; and	N/A
q) any other information requested by the competent authority.	N/A
2) Where a government notice gazetted by the Minister provides for any protocol or minimum information requirement to be applied to a specialist report, the requirements as indicated in such notice will apply.	N/A

# K2021699383 (SOUTH AFRICA) (PTY) LTD.

## LEPHALALE SOLAR PROJECT

### TRANSPORTATION STUDY

#### CONTENTS

1.	INTRODUCTION .....	9
2.	SOLAR ENERGY FACILITY COMPONENTS .....	9
2.1	Solar Project Components .....	9
2.2	Grid Connection Components .....	10
3.	OBJECTIVES AND SCOPE OF WORK.....	10
3.1	Legal Requirement & Guidelines.....	10
4.	SPECIALIST CREDENTIALS .....	11
5.	ASSUMPTIONS AND LIMITATIONS .....	11
6.	PROJECT DESCRIPTION .....	12
6.1	Locality .....	12
7.	TRANSPORTATION .....	14
7.1	Existing Traffic Conditions.....	14
7.2	Additional Traffic Generation.....	16
7.2.1	Construction Phase .....	16
7.2.2	Operation & Maintenance Phase (O&M).....	20
7.2.3	Decommission Phase.....	20
7.3	Lephalale Solar Project – Access.....	21
7.4	Design Considerations .....	23
8.	INTERNAL LAYOUTS.....	25
9.	GRID CONNECTION .....	25
10.	IMPACT RATING ASSESSMENT.....	26
11.	CUMULATIVE IMPACT ASSESSMENT .....	28
12.	CONCLUSIONS AND IMPACT STATEMENT .....	29
13.	REFERENCES.....	30

APPENDIX A: SPECIALIST CURRICULUM VITAE .....	31
APPENDIX B: SPECIALIST DECLARATION .....	33

## LIST OF TABLES

Table 4.1 Specialist Credentials & Experience .....	11
Table 7.1 Traffic Station Data / Counts .....	15
Table 7.2 Abnormal Load Dimensions .....	19
Table 10.1 Lephalale Solar Project – Impact Rating Table .....	27
Table 11.1 Proposed Renewable Energy developments within a 35km radius .....	28

## LIST OF FIGURES

Figure 6.1 Regional Context.....	13
Figure 6.2 Site Locality .....	14
Figure 7.1 Roads Agency Limpopo – Provincial Road Network (Extract).....	15
Figure 7.2 Normal & Abnormal Load Transport Routes.....	17
Figure 7.3 HVM Detour of Road R33 .....	18
Figure 7.4 Abnormal Load on Legal Combination.....	19
Figure 7.5 Abnormal Load on Long Wheelbase Trailer .....	19
Figure 7.6 Access Position.....	21
Figure 7.7 Existing Access to the Lephalale Solar Project.....	22
Figure 7.8 Existing Access to Lephalale Solar Project - South approaching .....	23
Figure 7.9 Existing Access to Lephalale Solar Project - North approaching.....	23
Figure 7.10 Typical Intersection and Farm Access Detail (GAUTRANS) .....	24
Figure 8.1 Preliminary Site Layout .....	25
Figure 11.1 Proposed Renewable Energy Developments within 35km radius .....	29



# 1. INTRODUCTION

SiVEST Civil Engineering Division was appointed by K2021699383 (South Africa) (Pty) Ltd. (hereafter referred to as the “Developer”) to complete a Transportation Study for the proposed 100MWp (80MWac) Lephalale Solar Project (PV) (hereafter referred to as the “proposed facility / facilities” or the “development”) situated approximately 16km west of Lephalale in the Limpopo Province.

The proposed facility, situated in close proximity to the Grootegeluk Mine and the Matimba and Medupi Power Stations is not located within any current or future Renewable Energy Development Zones (REDZs).

The development consists of one EIA application namely; Lephalale Solar Project. This report only focuses on the Lephalale Solar Project and the access from Road D2001.

## 2. SOLAR ENERGY FACILITY COMPONENTS

The development will consist of the following:

### 2.1 Solar Project Components

The applicant proposes to generate electricity from the solar energy resource using photovoltaic panels.

The solar field and the project associated infrastructure are listed below. Detailed descriptions of the project components including the locations and coordinates of the structures are included in the sections below.

The proposed project would entail the development of a Photovoltaic (PV) solar power plant up to 256 hectares in extent with a generation capacity of approximately 100 MWp (80 MWac) covering the entire feasible area. The final capacity would be dependent on ongoing development of photovoltaic technologies; as more efficient modules may become available by the time that the project would begin construction. The development footprint is approximately 256 hectares; however, the generation capacity may vary based on the availability of more efficient PV panels.

The solar facility will consist of:

- Solar PV panels
- Steel support structure and tracker system on concrete foundations
- Inverter stations as part of the PV field
- Transformers, switchgear and related equipment as part of the Substations
- Internal roads

The project associated infrastructure will consist of:

- Substation complex (33/132 kV) including control rooms and grid control yards.
- Existing Grootegeluk substation upgrades
- 132 kV transmission line and transmission towers
- Battery Energy Storage System (BESS)
- Operations and maintenance buildings
- Borehole and water treatment plant
- Access roads
- Internal roads
- Perimeter fencing

- Access control gate
- Security building
- Temporary concrete batching facility
- Temporary offices for the construction period
- Construction yard
- Laydown area

## 2.2 Grid Connection Components

The power will be transmitted from the onsite substation complex into the Grootegeluk Substation via a 132 kV overhead transmission line. The route for the transmission line will traverse over Portion 1 and the Remainder of farm Appelvlakte 448 which is owned by Exxaro Coal (Pty) Ltd.

## 3. OBJECTIVES AND SCOPE OF WORK

The main objective of the 'Transportation Study' is to determine the impact/s of the proposed development on the area with respect to transportation. The assessment will comprise of a desktop assessment and will include preliminary transportation related matters arising during the construction phase, through the Operation & Maintenance Phase, up to and including the decommissioning phase of the development. The assessment of these phases, will take into account the transportation of normal and abnormal vehicles, which are made up of *inter alia*; - PV components, construction materials, equipment, construction workers and employees.

The scope of works consists of the following:

- a) A site investigation which was completed the 6<sup>th</sup> July 2021.
- b) Consultations with the relevant authorities and / or stakeholders which includes the collection of traffic data and information.
- c) Desktop analysis of traffic data and information from the various authorities and / or stakeholders. Analysis to include the evaluation of the capacity of the road network (if available)
- d) Evaluate the impact of the proposed development on the existing road network / traffic volumes and populating of a suitable 'Impact Rating System'
- e) Determine specific traffic needs during the different phases of implementation.
- f) Conclude & propose possible mitigation measures
- g) Identify the position and suitability of the preferred access road alternatives.
- h) Confirm the associated clearances required for the necessary equipment to be transported from the point of delivery to the various sites.
- i) Confirm freight and transport requirements during construction, operation and maintenance period.
- j) Propose origins and destinations of equipment
- k) Determine Abnormal load requirements (if any)
- l) Seasonal impacts do not affect the assessment.

### 3.1 Legal Requirement & Guidelines

Key legal requirements and guidelines to the proposed facilities are as follows:

- Government Notice 509 (GN509) as published in Government Gazette 40229 of 2016
- National Environmental Management Act, 1998 (Act No 107 of 1998) (NEMA)
- National Water Act, 1998 (Act No 36 of 1998) (NWA)
- Road Safety Act (Act No 93 of 1996)
- National Road Traffic Regulations, 2000

#### 4. SPECIALIST CREDENTIALS

This Transportation Study has been compiled by Merchandt Le Maitre from SIVEST Consulting Engineers. He has a B Tech (Baccalaureus Technologiae) in Civil Engineering with over 16 years of experience where 10 of those years has been in the renewable energy field. His extensive experience in the different facets of Civil Engineering means he is able to advise clients in the renewable energy sector with a holistic view in; geotechnical engineering, topographical studies, stormwater management, water demand analysis, transportation studies & access / layout alternatives. A full Curriculum Vitae is included in 'Appendix A'

**Table 4.1 Specialist Credentials & Experience**

<b>Company</b>	SIVEST (Pty) Ltd
<b>Contact Details</b>	merchandtm@sivest.co.za
<b>Qualifications</b>	B Tech (Baccalaureus Technologiae) in Civil Engineering
<b>Professional Registrations &amp; Memberships</b>	<ul style="list-style-type: none"> <li>• Pr. Tech Eng – Engineering Council of South Africa</li> <li>• MSAICE – Member of South African Institute of Civil Engineers</li> <li>• SAWEA – South African Wind Energy Association</li> </ul>
<b>Expertise to carry out the Transportation Study</b>	<ul style="list-style-type: none"> <li>• Tooverberg WEF</li> <li>• Umsobomvu PV</li> <li>• Droogfontein 3 PV</li> <li>• Mierdam PV</li> <li>• Dwarsrug PV</li> <li>• Platsjambok West PV</li> <li>• Platsjambok East PV</li> <li>• Loeriesfontein 3 PV</li> <li>• Koeris BESS</li> <li>• Koup 1 &amp; 2 WEF</li> </ul>

#### 5. ASSUMPTIONS AND LIMITATIONS

The following assumptions and limitations are to be noted:

- The analysis is based on the information provided at the time by GCS Water & Environmental Consultants and their representatives.
- The development consists of one EIA application namely; Lephalale Solar Project. This report only focuses on the Lephalale Solar Project and the access from Road D2001.
- Digital Terrain Model: 25m DEM from NGI (2014) & 2m DEM from GeoSmart (2016:3222DA)
- Technical Specifications for this facility are:

Technical Component	Dimensions
Height of PV Panels	<= 5m
Area of PV Array	+250 ha
Number of Panels and Inverters	To be determined at detailed design phase
Area of Inverter / Transformer stations / substations / BESS	The inverter/transformer stations will be located within the area of the PV array, while the main HV transformers will be located within the substation complex
Voltage of Substation Complex	22kV/132kV or 33kV/132kV
Area of Substation Complex	<= 2 ha
Height of Substation Complex	<= 30m
Area occupied by laydown areas (Permanent and Construction)	<=10 ha
Area occupied by Buildings	< 1 ha for site office and O&M buildings
Length of Access Road	<=4km
Width of Access Road	5m
Length of Internal Roads	<=11km
Width of Internal Roads	4m
Construction Period	18 months

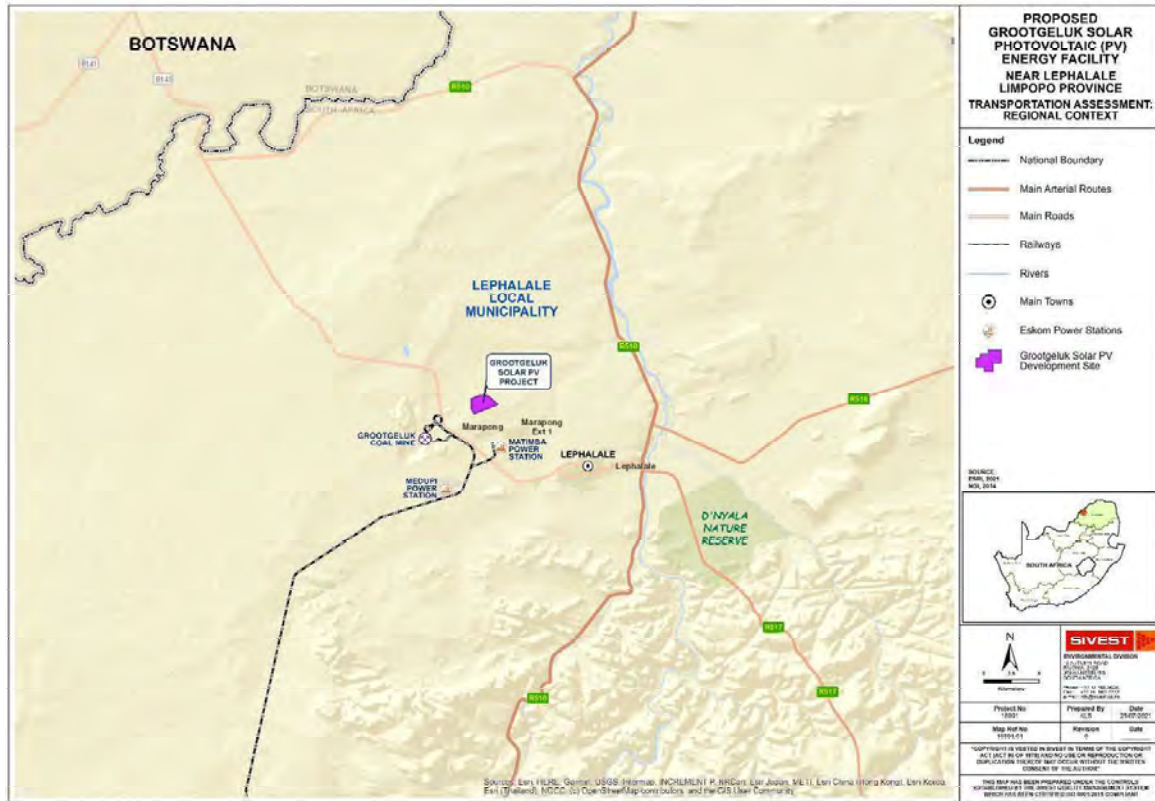
- Traffic Station Data / Counts and trip generation calculations are for one direction only and do not include return trips, unless indicated.
- This assessment is limited to the impact the development traffic will have on the network and not on the wider impacts, known as background traffic. Such impacts can only be addressed in a detailed Traffic Impact Study which takes into account actual traffic counts undertaken during the peak periods.
- The information provided in this report is an informed estimate. Construction related traffic may however vary and be different to the information provided as a result of supplier delivery schedule changes.

## 6. PROJECT DESCRIPTION

### 6.1 Locality

The proposed PV development and associated grid connection infrastructure is located approximately 16km west of Lephalale in the Limpopo Province and is within the Lephalale Local Municipality and the Waterberg District Municipality.

Private electricity supply options are becoming popular to supplement the electricity purchased from Eskom. This opportunity leverages the potential cost savings of such supplementary supply, while taking advantage of the reduced carbon footprint of the renewable nature of the technology.



**Figure 6.1 Regional Context**

The proposed site for the PV development facility is ± 236ha in extent and covers the following properties (Refer Figure 6.2):

- Remainder of the Farm Appelvlakte 448

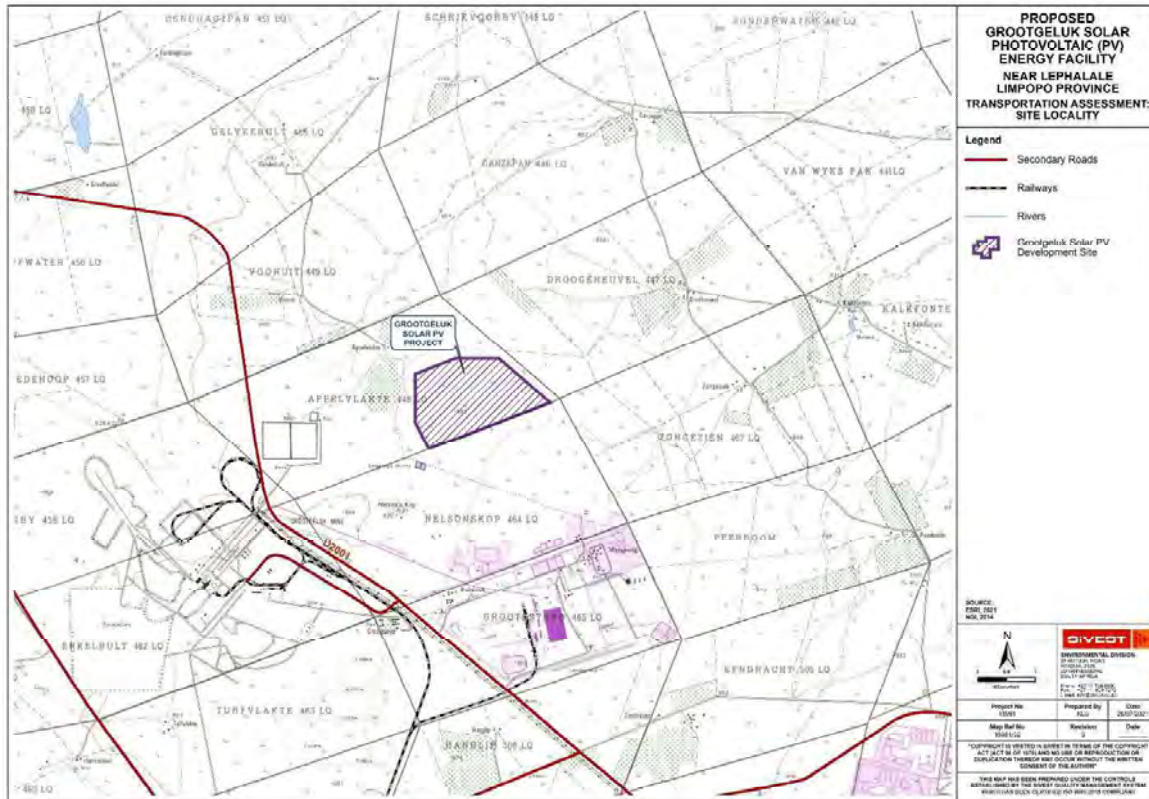


Figure 6.2 Site Locality

## 7. TRANSPORTATION

The proposed Lephalale Solar Facility is located in close proximity to provincial roads. An existing access onto the facility already exists in the form of a farm access point, however, the access for the future facility expansions, could be upgraded or moved to a new position in order to accommodate the proposed adjusted land use.

For this development the existing access position is located  $\pm 3\ 500\text{m}$  east of the surfaced D2001 Provincial Road. Road D2001 is a proclaimed road and falls under the jurisdiction of the Roads Agency Limpopo (RAL) administration (Refer Figure 7.1). The access road between the development and the D2001 Provincial Road is a private gravel road and will be extended to traverse over Portion 1 of the farm Appelvlakte 448.

The site and their respective access points and internal layouts will be discussed in more detail in the sections below;

### 7.1 Existing Traffic Conditions

The Roads Agency Limpopo completed traffic counts in 2016 with extracts of the Average Annual Daily Traffic (AADT) indicated in Table 7.1 below.

SiVEST made contact with the RAL who confirmed that the figures appeared to be abnormally high for a road of this class and that new traffic counts are in the process of being completed. Based on this information, it was concluded that the data could not be used in this report and hence, an existing 'Morning' and 'Afternoon' peak period of 7:00 – 8:00 and 16:00 – 17:00 will be used in this report.





## **7.2 Additional Traffic Generation**

The construction phase will typically generate the highest number of trips for the proposed facility. Construction will typically involve access roads, foundations, frames, PV panels, electrical cables / transformers / switch gears / substations / BESS installations and the delivery of these materials / equipment / abnormal loads on the public road network.

It is assumed that no staff or labour will reside on the construction site, other than security, and therefore all will reside in nearby farms / hostels / towns of Maropong or Lephale.

### **7.2.1 Construction Phase**

Based on calculations and our experience from previous PV Facilities an 18 month construction period has been estimated where we confirm the civil construction phase will generate the greatest additional traffic to the surrounding road network. The resultant impact will be on the surrounding road network, increasing dust generation, noise and the increase in road maintenance.

The civil construction period for PV developments typically take place between month 2 – 8 on a development of this size. This development of  $\pm 236$  ha PV panels will generate  $\pm 42$  additional vehicles trips per day on the surrounding road network. Of these vehicle trips,  $\pm 20$  vehicle trips will occur at the peak of the construction phase transporting staff and labour. Typically, these trips will be in the morning between 6:00 – 7:00 and in the afternoons between 16:00 – 17:00. These trips will therefore coincide within the 'morning' & 'afternoon' peak periods.

The remaining  $\pm 22$  vehicle trips will occur during the 'weekday midday' period for the delivery of construction material and abnormal loads. The abnormal loads however only account for less than 1 trip per day of the construction phase and is elaborated further in Section 7.2.1.2 below. Assuming an 9hr work day, the  $\pm 22$  vehicles during 'weekday midday' period will equate to  $\pm 3$  vehicle trips / hour.

In terms of *TMH16 - South African Traffic Impact and Site Traffic Assessment Manual* this development generates less than 50 peak hour trips and hence a 'Traffic Impact Assessment' will not be required. The resultant impact of this development to the surrounding road network during the construction period, is therefore seen as minimal.

#### **7.2.1.1 Normal Loads Route**

The transportation of normal & abnormal loads has been indicated in Figure 7.2 below and will be primarily from two areas; - Gauteng and the Port of Durban.







**Figure 7.3 HMV Detour of Road R33**

Two routes exist between Lephalale and the development access; the first is a long Road D2649 past Medupi Power Station and along Road D1675 to ultimately join up with Road D2001 and the access to the development, while the other is through Lephalale on Nelson Mandela Drive which links up with Road D2001 and the access. We are of the opinion that the former should be considered as it does not interfere with lower order urban collectors.

We recommend that a more comprehensive route analysis be completed prior to construction in order to get a better understanding of the works required and the potential risks.

#### **7.2.1.2 Abnormal Loads Route**

Abnormal loads are described as loads that for all practical purposes cannot be transported on a vehicle or vehicles without exceeding the limitations as described in the 'National Road Traffic Regulations' of 2000. These vehicles exceed the limitations as a result of one of the following;

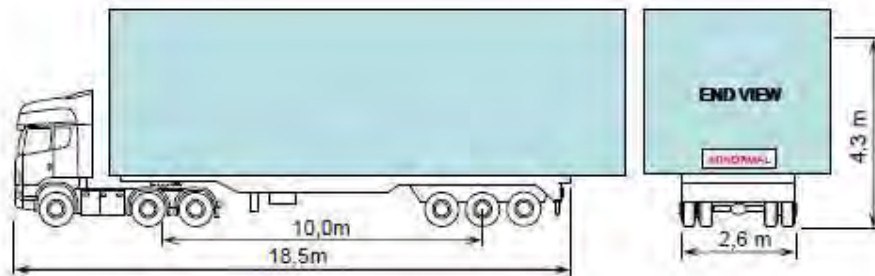
- Dimension Abnormality
  - Length
  - Width
  - Height
  - Overhangs
  - Load Projections
  - Wheelbase
- Mass Abnormality

The transportation of abnormal loads from its origin to the proposed development has been assumed to be primarily from two areas; - Gauteng & the Port of Durban. Therefore, for the purpose of this assessment it has been assumed all electrical transformers and switch gear etc. will be from the ships berth at the Port of Durban ( $\pm 930$ km). The other will be the transportation of site establishment

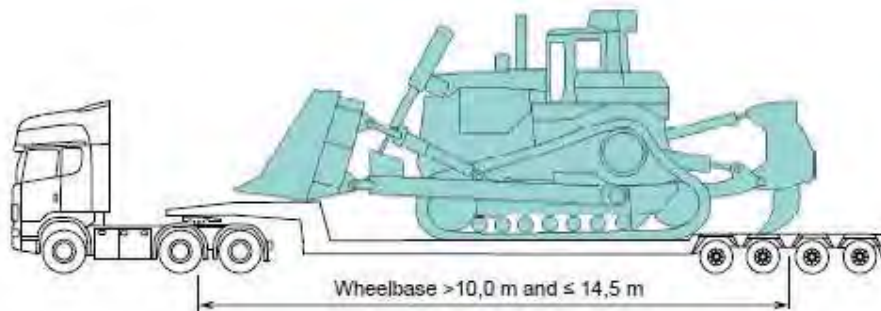
K2021699383 (SOUTH AFRICA) (PTY) LTD.

SIVEST Civil Engineering Division

equipment in the form of construction equipment and offices from Gauteng ( $\pm 374\text{km}$ ). Examples of the transportation methods for the offices (Figure 7.4) and construction equipment (Figure 7.5) have been included below.



**Figure 7.4 Abnormal Load on Legal Combination**



**Figure 7.5 Abnormal Load on Long Wheelbase Trailer**

The Geometric clearance requirements, associated with these abnormal load transporting the equipment types is shown in Table 7.2. We should however note that the figures above and table below are indicative as many of the components are still at design stage and will only be confirmed closer to time of construction.

**Table 7.2 Abnormal Load Dimensions**

Load to be Transported	Typical Dimensions (Max)		
	Length (m)	Width (m)	Height (m)
Transformers & Switch Gear	27	4.5	4.5
Construction Equipment	13	4.0	4.5

*\* Please note the values above are estimates based on data currently available*

Prior to any Abnormal Loads conveying equipment to the facility, approval needs to be obtained in the form of a permit from the Department of Transport (DoT). The permit application will be completed by specialists in the transportation of Abnormal loads and will conform to 'The Road Traffic Act, 1996 (Act No 93 of 1996)'. The application includes route clearances from Telkom and Eskom after which the application is submitted to DoT who intern consults with the SANRAL, Local Municipalities and Provincial Authorities prior to issuing a permit.

### **7.2.1.3 Permitting – General Rules**

The limits recommended in *TRH 11 - Guidelines for Granting of Exemption Permits for the Conveyance of Abnormal Loads and for other Events on Public Roads* are intended to serve as a guide to the Permit Issuing Authorities. It must be noted that each Administration has the right to refuse a permit application or to modify the conditions under which a permit is granted. It is understood that:

- A permit is issued at the sole discretion of the Issuing Authority. The permit may be refused because of the condition of the road, the culverts and bridges, the nature of other traffic on the road, abnormally heavy traffic during certain periods or for any other reason.
- A permit can be withdrawn if the vehicle upon inspection is found in any way not fit to be operated.
- During certain periods, such as school holidays or long weekends an embargo may be placed on the issuing of permits. Embargo lists are compiled annually and are obtainable from the Issuing Authorities.

### **7.2.2 Operation & Maintenance Phase (O&M)**

The Lephalale Solar Project has been designed with an estimated 20 year lifespan and could possibly be increased if financially viable. The O&M during the 20 year period will typically be in the form of a small general maintenance team during the O&M period. Any maintenance which will require transformers or switchgears will classify as an abnormal load and the traffic generated by this will be negligible in the greater scheme of the development. The largest contributor of traffic in this phase will therefore only comprise of employees commuting to and from the site.

We assume, a maximum number of ±15 employees will be employed during the 20 year life span of the project. It is therefore assumed that the employees will commute together and hence a total of an additional 10 trips will be added onto the existing road network during the morning off peak period. In addition to the staff commuting will be the collection of waste and sanitation. These are assumed to generate an additional 2 vehicles / week onto the existing road network and therefore the sum of this phase will have a low to negligible impact.

The specific traffic needs this phase of the development will have on the environment is inter alia;

- Reduction in vehicle speed
- Adequate law enforcement
- Implementation of pedestrian safety initiatives
- Regular maintenance of farm fence, access cattle grids.
- Adequate road signage as per the South African Road Traffic Sign Manual (SARTSM) latest edition.
- Continues engagement with the Road Agency Limpopo

### **7.2.3 Decommission Phase**

Decommissioning of the Lephalale Solar Project will generate considerably less trips than the construction phase. It is estimated that the decommissioning phase will generate an additional ± 10 vehicles / day over a period of 12 months. The material removed will be transported back to Gauteng for recycling. The impact of this phase will have a low to negligible impact

The specific traffic needs this phase of the development will have on the environment is inter alia;

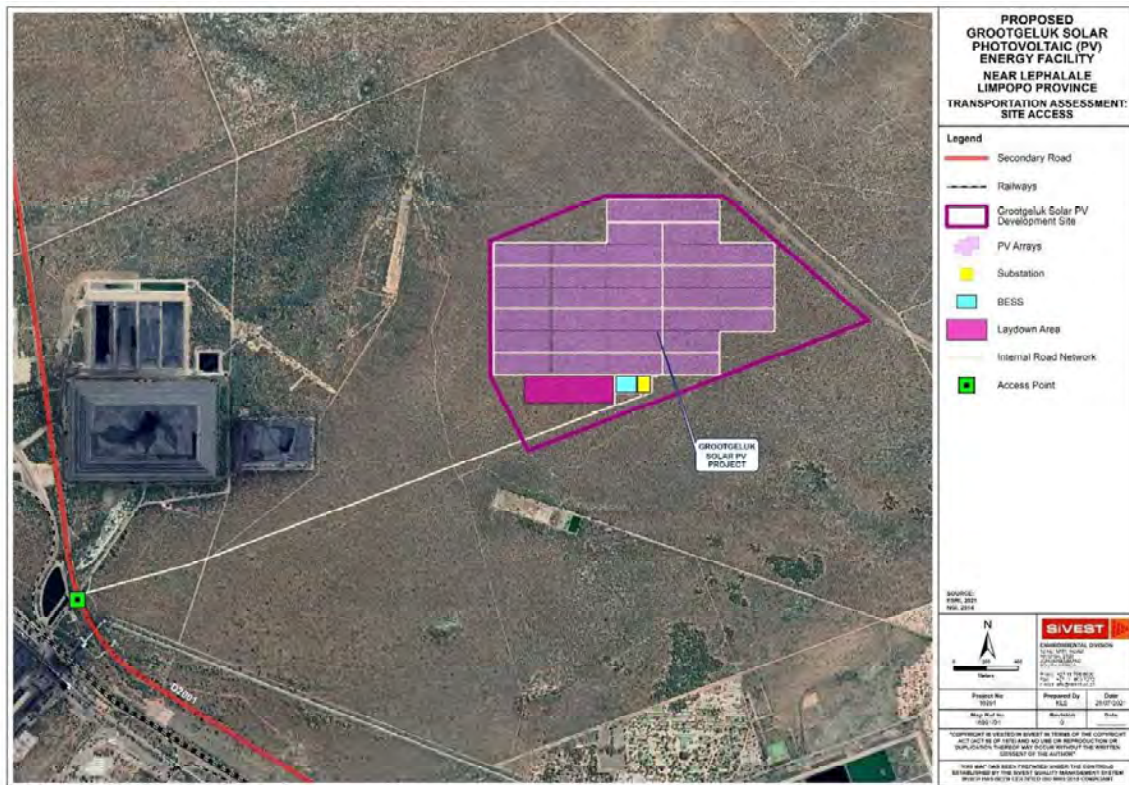
- Reduction in vehicle speed



- Adequate law enforcement
- Use of dust suppressant techniques.
- Implementation of pedestrian safety initiatives
- Adequate road signage as per the South African Road Traffic Sign Manual (SARTSM) latest edition.
- Continues engagement with the Roads Agency Limpopo

### 7.3 Lephale Solar Project – Access

Access to the Lephale Solar Project site will be from the existing access, located  $\pm 3$  500m east from the surfaced D2001 Provincial Road and falls under the jurisdiction of the Roads Agency Limpopo Administration. The existing access is located at  $\pm$ Km 6.54 and provides access to the farms situated on both east and west Road D2001. (Refer Figure 7.6)



**Figure 7.6 Access Position**

The access to this development is towards the east (Refer Figure 7.7) from the Road D2001 and traverses over Portion 1 of the farm Appelvlakte 448 as a gravel access road. (Refer Figure 7.6) A new extension of the gravel road from the existing access up to the development, will require both longitudinal and horizontal alignments to accommodate large construction and delivery vehicles.

A minimum road width of 6m is required on the access road to the development and 5m on internal roads. The appropriate turning radii, large enough to enable large vehicles to navigate with ease during the delivery of equipment is also required. We recommend that a concrete hard stand be constructed at the development access while the remainder of the roads remain gravel. A minimum road crossfall of 4% is recommended and adequate stormwater drainage is strongly recommended.

Furthermore, we recommend further review of the existing access road agreement between the proposed development and the land owner of Portion 1 so as to update the agreement for the revised access road alignment.



**Figure 7.7 Existing Access to the Lephalale Solar Project**

Road D2001 is classified as a Class 4 – District Collector and has an average road reserve width of 42m with a surfaced area width of 7.2m wide and a 1.2m wide gravel shoulder on both sides. The road has an operating speed of 60km/h.

Access to the Lephalale Solar Project is located at  $\pm$ Km 6.54 as indicated in Figure 7.8 and Figure 7.9 below. The minimum required sight distance applicable to a road at 60km/h is 180m and hence the current sight distance of  $\pm$ 208m north and  $\pm$ 237m south approaching, is acceptable and therefore the current access position can remain.

Upgrades to the access at  $\pm$ Km 6.54 will be required and approval will need to be obtained from the Roads Agency Limpopo.





**Figure 7.8 Existing Access to Lephalale Solar Project - South approaching**



**Figure 7.9 Existing Access to Lephalale Solar Project - North approaching**

#### **7.4 Design Considerations**

The specific traffic needs for this phase of the development facility imposed on the environment is *inter alia*;

- Reduction in vehicle speed

- Adequate law enforcement
- Implementation of pedestrian safety initiatives
- Regular maintenance of farm fences, access cattle grids.
- Adequate road signage as per the South African Road Traffic Sign Manual (SARTSM) latest edition.
- Continuous engagement with the Roads Agency Limpopo

Based on our recent discussions with the Roads Agency Limpopo, new Land Use applications must be sent for approval to their department with the proposed new / upgraded access positions. As part of the application / motivation, the expected traffic during construction and the O&M phase, available sight distances including photograph, locality, GPS coordinates, Title Deeds and the affected stormwater structures needs to be included in the application.

Standard access requirements from the Gauteng Department of Transport have been included in Figure 7.10 below.

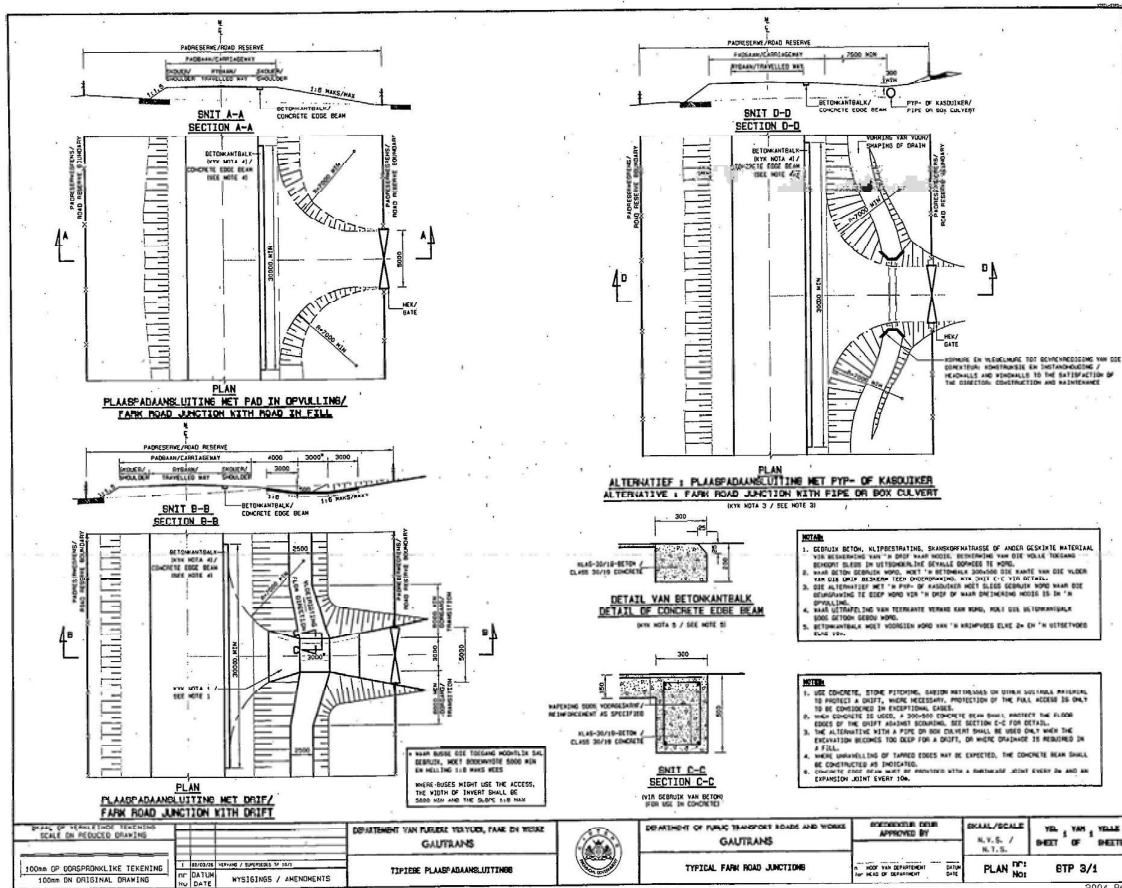


Figure 7.10 Typical Intersection and Farm Access Detail (GAUTRANS)



## 8. INTERNAL LAYOUTS

The layout of the internal infrastructure should be such that the impact to the environment is kept to a minimum.



Figure 8.1 Preliminary Site Layout

An internal network of roads has been assumed to be in a traditional grid pattern formation and will mainly consist of 5m wide gravel roads. These roads will have designed horizontal and vertical alignments to accommodate the normal and abnormal vehicles intended to be used for the delivery and maintenance of the PV equipment.

We would recommend that all internal access roads take into account where possible and applicable, the PV facility stormwater management plan so as to reduce the risks of possible erosion.

In addition, we recommend that all internal access roads are constructed according to *TRH20 – Unsealed Roads: Design Construction and Maintenance*. For the purpose of this assessment, we have assumed that the insitu material below the topsoil is of 'G7' quality and can be used as a suitable road subgrade material, followed by an imported 'Gravel Wearing Course' material.

A suitable geotechnical study will however be required at pre design stage to better understand the design limitations on the development followed by a preliminary design to 'value' Engineer the project.

## 9. GRID CONNECTION

The power will be transmitted from the onsite substation complex into the Grootegeluk Substation via a 132 kV overhead transmission line. The route for the transmission line will travers over Portion 1 and the Remainder of farm Appelvlakte 448 which is owned by Exxaro Coal (Pty) Ltd. (Refer Figure 7.6 and Figure 8.1).

## **10. IMPACT RATING ASSESSMENT**

The 'Impact Rating System' takes into account the nature, scale and duration of the effects on the environment whether such effects are positive (beneficial) or negative (detrimental).

A rating points-based system is applied to the potential impacts on the environment and includes objective evaluations of the mitigation of the impact. These impacts can be found in Table 10.1 below.

In summary, all impacts were classified as 'Low' or 'Medium' impacts and remain 'Low' or 'Medium' after the implementation of suitable mitigation measures. This rating is applicable to all alternatives considered.

**Table 10.1 Lephale Solar Project – Impact Rating Table**

Activity	Impact	Before Mitigation												After Mitigation												Confidence level	Mitigation measures
		Severity rating	Spatial scale	Duration	Consequence	Frequency of activity	Frequency of impact	Legal Issues	Detection	Likelihood	Significance	+/-	Risk Rating	Severity rating	Spatial scale	Duration	Consequence	Frequency of activity	Frequency of impact	Legal Issues	Detection	Likelihood	Significance	+/-	Risk Rating		
<b>Transportation Impact</b>																											
	Increase in Traffic	2	3	1	6	2	3	5	2	12	72	-	M	2	3	1	6	2	3	5	2	12	72	-	M	75%	<ul style="list-style-type: none"> <li>Ensure staff transport is done by bus to reduce impact in the peak period.</li> <li>Stagger material, component and abnormal load deliveries</li> </ul>
	Increase of Incidents with pedestrians and livestock	2	3	1	6	2	3	5	2	12	72	-	M	1	3	1	5	2	3	5	1	11	55	-	L	75%	<ul style="list-style-type: none"> <li>Reduction in speed of vehicles</li> <li>Adequate enforcement of the law</li> <li>Implementation of pedestrian safety initiatives</li> <li>Regular maintenance of farm fences &amp; access cattle grids</li> </ul>
	Increase in Dust from gravel roads	2	3	1	6	2	2	5	2	11	66	-	M	2	3	1	6	2	2	5	1	10	60	-	M	75%	<ul style="list-style-type: none"> <li>Reduction in speed of the vehicles</li> <li>Construction of gravel road in terms of TRH 20</li> <li>Implement a road maintenance program under the auspices of the respective transport department.</li> </ul>
	Increase in Road Maintenance	2	3	2	7	2	3	5	2	12	84	-	M	2	3	2	7	2	3	5	2	12	84	-	M	75%	<ul style="list-style-type: none"> <li>Implement a road maintenance program under the auspices of the respective transport department.</li> </ul>
Abnormal Loads	Additional Abnormal Loads	1	1	1	3	2	2	5	1	10	30	-	L	1	1	1	3	2	2	5	1	10	30	-	L	75%	<ul style="list-style-type: none"> <li>Ensure abnormal vehicles travel to and from the proposed development travel in the 'off peak' periods or stagger delivery.</li> <li>Adequate enforcement of the law</li> </ul>
Internal Access Roads	Increase in Dust from gravel roads	2	2	1	5	2	2	5	2	11	55	-	L	2	2	1	5	2	2	5	2	11	55	-	L	75%	<ul style="list-style-type: none"> <li>Enforce a maximum speed limit on the development</li> <li>Appropriate, timely and high quality maintenance required in terms of TRH20</li> <li>Possible use of an approved dust suppressant techniques</li> </ul>
	New / Larger Access points	1	2	1	4	2	2	5	1	10	40	-	L	1	2	1	4	2	2	5	1	10	40	-	L	75%	<ul style="list-style-type: none"> <li>Adequate road signage according to the SARTSM</li> <li>Approval from the respective roads department</li> </ul>

## 11. CUMULATIVE IMPACT ASSESSMENT

SiVEST undertook every effort to obtain the information (including specialist studies, BA / EIA / Scoping and EMPr Reports) for the surrounding developments within 35 km of the proposed Solar facility, however many of the documents are not currently, publicly available. To this extent, the information that could be obtained from the surrounding, planned renewable energy developments was taken into account as part of the cumulative impact assessment. Six (6) renewable energy projects were identified within a 35 km radius of the proposed development as shown in Table 11.1 below. The renewable energy developments considered as part of this transportation study are as follows:

**Table 11.1 Proposed Renewable Energy developments within a 35km radius.**

Project	DEA Reference No	Technology	Capacity	Status of Application / Development
-	14/12/16/3/3/3/2/300 - 304	Solar	75MW	EIA in Process
-	14/12/16/3/3/3/2/468	Solar	75MW	EIA in Process
-	12/12/20/2508	Solar	75MW	EIA in Process
-	12/12/20/2152	Solar	46MW	EIA in Process
-	14/12/16/3/3/2/444	Solar	75MW	EIA in Process
-	12/12/20/2306	Solar	-	EIA in Process

The information obtained for other planned renewable energy developments in the surrounds are indicated in Figure 11.1 below.

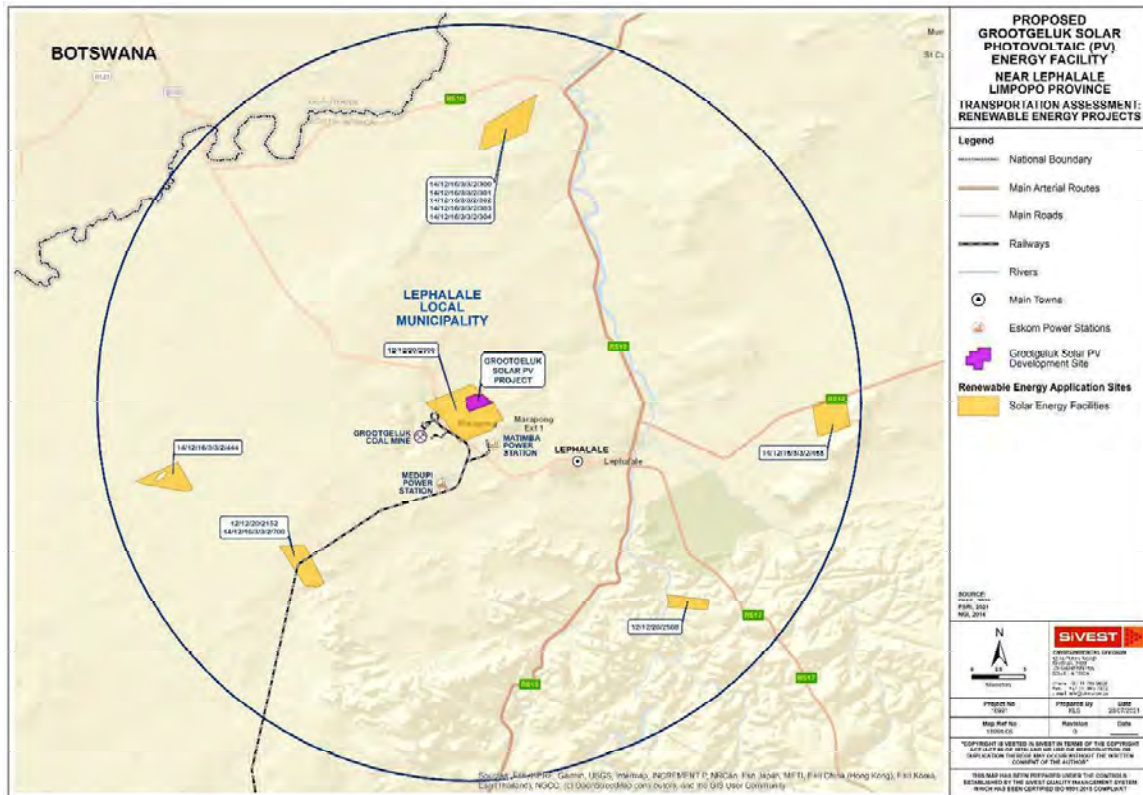


Figure 11.1 Proposed Renewable Energy Developments within 35km radius

## 12. CONCLUSIONS AND IMPACT STATEMENT

Based on the information received and the foregoing results concluded, our summary of conclusions are as follows:

- In conclusion;
  - The Lephalale Solar Project consists of one EIA application
  - The construction phase of this development will typically generate the highest number of additional vehicles. It will however be temporary and impacts are considered to be minimal / low.
  - During the operation phase, it is expected that the facility will accommodate  $\pm 15$  employees which will generate an additional  $\pm 10$  trips / day in the morning and afternoon peak period. This impact is considered to be minimal / low.
  - The existing access from Road D2001 has sufficient sight distance in both directions and hence an upgrade of the existing access will be required from the Roads Agency Limpopo. A wayleave application will be required from the agency prior to work commencing.
  - A new gravel road between the access position on Road D2001 and the development will be required in accordance with TRH20
  - Mitigation measures to be included in the construction phase:
    - Ensure staff transport is done by bus to reduce impact in the peak periods.
    - Stagger material, component and abnormal loads deliveries
    - Adequate road signage according on Road D2001 to the SARTSM
    - Reduction in speed of vehicles

- Adequate enforcement of the law
    - Implementation of pedestrian safety initiatives
    - Regular maintenance of farm fences & access cattle grids
  - We also recommend a review of the agreement between the developer and the owner of Portion 1 of the farm Appelvlakte 448.
  - The 'No Go' alternative would result in there being no transportation impacts.
  - No fatal flaws or preferences were identified for any of the proposed site alternatives for construction laydown areas or substation locations.
  - No environmentally sensitive areas are required and therefore no areas are to be avoided from a Transportation perspective.
- Impact Statement;
    - With reference to this report, associated assessment and the findings made within, it is SIVEST's opinion that the Lephalale Solar Project and associated infrastructure will have a nominal impact on the existing traffic network. The project is therefore deemed acceptable from a transport perspective, provided the recommendations and mitigations measures in this report are implemented, and hence the Environmental Authorisation (EA) should be granted for the EIA application.

### 13. REFERENCES

KZN Transport – *Concrete Causeway Details (1996)*

South African National Roads Agency Limited – *Drainage Manual (5<sup>th</sup> Edition)*

Technical Recommendations for Highways (TMH16) Volume 1 & 2 – *South African Traffic Impact and Site Traffic Assessment Manual (Version 1.0 – August 2012)*

Technical Recommendations for Highways (TRH11) – *Guidelines for Granting of Exemption Permits for the Conveyance of Abnormal Loads and for other Events on Public Roads (7<sup>th</sup> Edition - 2000)*

Technical Recommendations for Highways (TRH17) – *Geometric Design of Rural Roads (1988)*

Technical Recommendations for Highways (Draft TRH20) – *Unsealed Roads: Design Construction and Maintenance (Version 1.6 – March 2013)*

Roads Agency Limpopo – *Road Network Information System*

## **APPENDIX A: SPECIALIST CURRICULUM VITAE**



**Name** Merchandt Le Maitre  
**Profession** Civil Engineer  
**Name of Firm** SiVEST SA (Pty) Ltd  
**Present Appointment** Divisional Manager: Civil Engineering Division  
**Years with Firm** 15 Years  
**Date of Birth** 25 September 1982, Johannesburg, South Africa  
**ID Number** 820925 5037 086  
**Nationality** South African



**Education**

- University of Johannesburg (2006)
- University of South Africa (2016)

**Professional Qualifications**

- N Dip: Civil Engineering
- B Tech: Civil Engineering (Water)
- Pr.Tech.Eng. (Reg. No. 2018300094)

**Membership in Professional Societies**

- Engineering Council of South Africa (ECSA) – Pr Tech Eng; (Reg N° 2018300094)
- South African Institute of Civil Engineers (SAICE)

**Employment Record**

Nov 2020 – present SiVEST SA (PTY) LTD: Divisional Manager  
 May 2004 – Oct 2020 SiVEST SA (PTY) LTD: Senior Civil Engineering Technician  
 Jan 2004 – April 2004 Con Roux Zambia - Junior Foreman  
 Dec 2002 – Dec 2003 Neda Engineering - Vacation Work

**Language Proficiency**

LANGUAGE	SPEAK	READ	WRITE
English	Fluent	Fluent	Fluent
Afrikaans	Fluent	Fluent	Fluent

**Years of Working Experience:** 16

**Countries of Work Experience**

- South Africa
- Swaziland
- Zambia
- Kenya



## Fields of Expertise

- Bulk Services Studies
- Feasibility Studies
- Service Reports
- Infrastructure Design
- Contract Documentation & Procurement
- Contract Administration
- Procurement and Construction Monitoring

## Overview

Merchandt joined SiVEST as a student Civil Engineering Technician in 2004 to which he received a company bursary to complete his studies and join the company permanently thereafter. Since joining permanently he has been actively involved in numerous township projects and associated infrastructure projects.

A summary of the experience in each field is indicated below:

### Roads & Stormwater

Design, Implement & Contract Administration:

- Provincial Road Intersections (Class 2 Roads)
- Municipal Roads (Class 3-5 Roads)
- Residential & Industrial Township services
- Bulk Stormwater Infrastructure

### Hydrology

- Attenuation Reports
- Flood Inundation Assessments / Floodline Reports
- Stormwater Management Reports
- Stormwater Assessments / Investigations
- Roof Gutter & Down Pipe Design / Assessments / Reports

### Water & Sanitation

Design, Implement & Contract Administration:

- Water supply lines including Bulk Water
- Water pump stations
- Sanitation networks including Outfall Sewers
- Sewer pump stations
- Farm Irrigation Network

### Renewable Energy

- Transportation Impact Assessments
- Water Demand Assessments
- Glint & Glare Assessments
- Stormwater Management Reports
- Preliminary Engineering Reports & Designs

## Projects Experience (by Sector)

### TOWNSHIP SERVICES

- Tijger Valley Extension 10, 20, 21, 22, 23, 27, 38-44, 72, 105-113, 19, 62, 103, 104, 34, 35, 36, 123 etc.  
- Design, Procurement, Contract Administration and Monitoring.
- Derdepoort Extension 181- Design, Procurement, Contract Administration and Monitoring.

- Project Springbok, Sasolburg - Design, Procurement, Contract Administration and Monitoring.
- Arcadia Extension 11 - Design, Procurement, Contract Administration and Monitoring.
- Lakeside Erf 181- Design, Procurement, Contract Administration and Monitoring.
- Longmeadow Extension 10, 11 & 12 - Design, Procurement, Contract Administration and Monitoring.
- Bushwillow Estate - Design, Procurement, Contract Administration and Monitoring.
- Forum Homini – Draughting Monitoring of Dam Spillway construction & sewer reticulation.
- Longmeadow Extension 7, 8, 9, 10, 11, 12 – Township services and design of earth retaining wall.
- Lakeside Erf 181 – Design and supervision of Township Services including Attenuation facilities.
- Mbabane Kingdom Hall – Bulk earthworks and road Design, Procurement, Contract Administration and Monitoring.
- Kungwini Bulk Water – Draughting and supervision of a Steel Bulk Water Supply Pipe.
- Mooikloof Booster Station – Design and supervision of a water booster pump facility..
- PTN 2 of 148 Athol – Compiling and analysis Stormwater Assessment.
- Mooibosch Development – Compiling of Services reports and Floodline Determination.
- Hazeldean Extension 39 – Design and supervision of Township Services.
- Hazeldean Retirement – Design of Township Services.
- Kungwini Collector Sewer – Design of Collector Sewer.
- Maroeladal Extension 9 – Design and compilation of Services Report.
- Hazeldean Oukraal – Design of Township Services
- Hazeldean Business Park – Design and compilation of Services Reports.
- Erf 181 Derdepoot – Design and compilation of Services Reports and preliminary design of Provincial Intersection.
- Erf 92 Edenburg – Floodline Determination and design and compilation of the Services reports.
- Longmeadow Extension 12 Stormwater – Design of Stormwater Reticulation.
- Astral Foods - Design, Procurement, Contract Administration and Monitoring of civil services.
- Eastgate Solar Roof – Glint & Glare Assessment
- Cotton Gin Mpumalanga – Design & Procure all services

#### ROADS & INTERSECTION DESIGN

- D631 Intersection – Design, Wayleave Approval, Procurement, Contract Administration and Monitoring.
- D36 Intersection & Road Widening - Design, Wayleave Approval, Procurement.
- K34 Intersection – Design, Wayleave Approval, Procurement, Contract Administration and Monitoring.
- K101 Intersection – Design, Wayleave Approval.
- Justice Mahomed, University, Walton Jameson Rd Intersection – Design, Wayleave Approval.
- Cedar Road West – Design, Wayleave Approval, Procurement, Contract Administration and Monitoring.
- Brikor – Design of New Intersection.
- New Zealand Embassy – Design of Intersection.
- East Point Game - Design, Wayleave Approval, Procurement, Contract Administration and Monitoring.

#### HYDROLOGY AND STORMWATER

- Hazeldean Floodline - Data collection, Flood determination and compilation.
- Gautrain Railway Stormwater Management – Design and compile stormwater management and attenuation facilities.
- Stormwater Modelling for Project Springbok – Attenuation of hazardous material in stormwater system.
- Sappi Ngodwana Floodline – Data collection, Flood determination and compilation. This floodline included cognisance of the Ngodwana dam.
- Irene Mall Stormwater Management - Accommodation of the Post Development stormwater flow through an existing township / suburb.
- Loftus Park Stormwater Management – Accommodation of the Post Development stormwater flow through an existing township / suburb.

- Pienaars River Floodline Modelling – Modelling of the river through two future Class 1 & 3 road bridge structures.
- Renewable Energy Stormwater Management – A number of Management Plans for the Renewable Energy sector has been completed.
- Longmeadow Extension 10 (Pick & Pay) – Design and compilation of Stormwater Management report.
- Erf 4173 Peter Place – Floodline Determination.
- Irene Mall Township – Design of Township Services and Stormwater Management.
- Mitsubishi McCarthy Midrand – Design and compilation of Stormwater Management report.
- Isago @ N12 – Floodline Determination.
- Innoland – Floodline Determination.
- Lot 204 Edenburg – Floodline Determination
- Erf 90 Douglasdale – Floodline Determination.
- PTN 35 Houtkoppen – Floodline Determination.
- Erf 4173 Peter Place – Floodline Determination.
- Hyde Close Floodline – Floodline Determination.
- Chartwell Floodline – Floodline Determination
- Hyundai East Rand – Roof Gutter & Down Pipe design
- Oilifants River – Floodline Determination

#### WATER TRANSFER / RETICULATION AND SANITATION COLLECTORS / OUTFALLS

- Bojanala Platinum District Municipality – Water & Sanitation Bulk Master Planning.
- Hazeldean Development – Bulk Water Supply & Collector Sewer Design, Procurement, Contract Administration and Monitoring.
- Mamba Kingdom – Bulk Water Analysis.
- Lesedi Local Municipality Bulk Water - Design, Wayleave Approval, Procurement, Contract Administration and Monitoring.
- NEF Tomato Paste Project – Design of Farm Irrigation Network

#### RENEWABLE ENERGY

- Dyansons Klip 5 – Stormwater Management Report
- De Aar Solar – Stormwater Management Report
- Droogfontein Solar – Stormwater Management Report
- Mierdam Solar – Stormwater Management Report
- Prieska – Stormwater Management Report
- Hoekplaas – Stormwater Management Report
- Noupoot WEF – Stormwater Management Report
- Copperton PV – Stormwater Management Report
- Klipgats PV – Stormwater Management Report
- Tooverberg Wind Energy Facility – Transportation Impact Assessment & Water Demand Assessment
- Umsobomvu Solar Energy - Transportation Impact Assessment
- Prieska Solar Energy - Transportation Impact Assessment Amendment
- Droogfontein Solar Energy - Transportation Impact Assessment Amendment
- Loeriesfontein Solar Energy - Transportation Impact Assessment Amendment
- Koeris WEF - Transportation Impact Assessment Amendment
- East Gate Shopping Centre - Glint & Glare Assessment
- Oya Energy - Glint & Glare Assessment
- Yemaya – Glint & Glare Assessment
- Beaufort West WEF – Preliminary Engineering Report

OTHER

- Project Springbok – Design of Services and Railway Siding.
- Phalaborwa Mining Company – Preliminary Design of Bulk Water feed and Railway Line.
- Kansanshi Copper Mine, Zambia – Junior Site Foreman.
- Final QC for Sasol Secunda.
- NDT testing – MMC Nelspruit, Global Forest Products Sabie.
- Boiler inspections and preliminary design – MMC Nelspruit, Global Forest Products, TSB Malelane.

**Computer Skills**

- AutoCAD Civil 3D
- AutoCAD Storm and Sanitary Analysis
- Microsoft Office
- Microsoft Project
- TechnoCAD
  - Surfmate
  - Roadmate
  - Pipemate
  - Watermate
- AutoTURN (Vehicle Turning Simulation Software)
- RiverCAD
- HecRAS
  - 1D Flood Modelling
  - 2D Flood Modelling

## **APPENDIX B: SPECIALIST DECLARATION**



## environmental affairs

Department:  
Environmental Affairs  
REPUBLIC OF SOUTH AFRICA

### DETAILS OF THE SPECIALIST, DECLARATION OF INTEREST AND UNDERTAKING UNDER OATH

	(For official use only)
File Reference Number:	
NEAS Reference Number:	DEA/EIA/
Date Received:	

Application for authorisation in terms of the National Environmental Management Act, Act No. 107 of 1998, as amended and the Environmental Impact Assessment (EIA) Regulations, 2014, as amended (the Regulations)

#### PROJECT TITLE

PROPOSED LEPHALALE SOLAR PROJECT

#### Kindly note the following:

1. This form must always be used for applications that must be subjected to Basic Assessment or Scoping & Environmental Impact Reporting where this Department is the Competent Authority.
2. This form is current as of 01 September 2018. It is the responsibility of the Applicant / Environmental Assessment Practitioner (EAP) to ascertain whether subsequent versions of the form have been published or produced by the Competent Authority. The latest available Departmental templates are available at <https://www.environment.gov.za/documents/forms>.
3. A copy of this form containing original signatures must be appended to all Draft and Final Reports submitted to the department for consideration.
4. All documentation delivered to the physical address contained in this form must be delivered during the official Departmental Officer Hours which is visible on the Departmental gate.
5. All EIA related documents (includes application forms, reports or any EIA related submissions) that are faxed; emailed; delivered to Security or placed in the Departmental Tender Box will not be accepted, only hardcopy submissions are accepted.

#### Departmental Details

##### Postal address:

Department of Environmental Affairs  
Attention: Chief Director: Integrated Environmental Authorisations  
Private Bag X447  
Pretoria  
0001

##### Physical address:

Department of Environmental Affairs  
Attention: Chief Director: Integrated Environmental Authorisations  
Environment House  
473 Steve Biko Road  
Arcadia

Queries must be directed to the Directorate: Coordination, Strategic Planning and Support at:  
Email: [EIAAdmin@environment.gov.za](mailto:EIAAdmin@environment.gov.za)

## 1. SPECIALIST INFORMATION

Specialist Company Name:	SIVEST SA (PTY) LTD		
B-BBEE	Contribution level (indicate 1 to 8 or non-compliant)	Percentage Procurement recognition	
Specialist name:	MERCHANDT LE MAITRE		
Specialist Qualifications:	B TECH – CIVIL ENGINEER		
Professional affiliation/registration:	ECSA (PR TECH ENG No: 2018300094)		
Physical address:	LOFTUS PARK, BUILDING A, 5 <sup>TH</sup> FLOOR, 416 KIRKNESS STR, ARCADIA, PRETORIA		
Postal address:	PO BOX 2921, RIVONIA		
Postal code:	2128	Cell:	072 435 8497
Telephone:	011 798 0600	Fax:	011 803 7272
E-mail:	MERCHANDTM@SIVEST.CO.ZA		

## 2. DECLARATION BY THE SPECIALIST

I, MERCHANDT LE MAITRE, declare that –

- I act as the independent specialist in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- all the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.



Signature of the Specialist

SIVEST SA (PTY) LTD

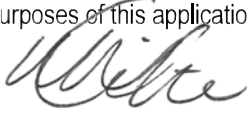
Name of Company:

11<sup>TH</sup> AUGUST 2021

Date

**3. UNDERTAKING UNDER OATH/ AFFIRMATION**

I, MERCHANDT LE MAITRE, swear under oath / affirm that all the information submitted or to be submitted for the purposes of this application is true and correct.



---

Signature of the Specialist

---

SIVEST SA(PTY) LTD

---

Name of Company

---

11<sup>TH</sup> AUGUST 2021

---

Date

---

Signature of the Commissioner of Oaths

---

Date





**SIVEST Civil Engineering Division**

Loftus Park, Building A, 5th Floor  
416 Kirkness Street, Arcadia, Pretoria.  
P O Box 2921, Johannesburg. 2000  
Gauteng. South Africa

Tel + 27 11 798 0600

Fax +27 11 803 7272

Email [info@sivest.co.za](mailto:info@sivest.co.za)

[www.sivest.co.za](http://www.sivest.co.za)

Contact Person: Merchandt Le Maitre

Email: [merchandtm@sivest.co.za](mailto:merchandtm@sivest.co.za)