

Annex A

## Legislative Framework

# 1 *LEGISLATIVE FRAMEWORK*

## 1.1 *INTRODUCTION*

This Annex provides a description of the institutional framework applied to the project, and the most relevant national and provincial legislation, policies and guidelines that have been taken into consideration. The content is as follows:

- Relevant South African government departments and regulators;
- South African law relevant to environmental and social standards deemed applicable to the Project; and
- International and internal guidelines and standards with which the Project must comply (relating to issues such as climate change and biodiversity).

## 1.2 *GOVERNMENT DEPARTMENT AND REGULATORS*

There are a number of Ministries and Departments that have an interest in and will take responsibility for ensuring that the Project is implemented in an environmentally responsible manner. The concept of co-operative governance is becoming increasingly important in relation to the adjudication of Environmental Impact Assessment (EIAs) in South Africa and whenever an activity falls within the jurisdiction of more than one organ of state, there must be co-ordination and co-operation between those organs of state in the consideration of EIAs and decision-making.

### 1.2.1 *National*

#### *Department of Environmental Affairs (DEA)*

The Department of Environmental Affairs (DEA) falls under the Ministry of Water and Environmental Affairs and is responsible for all environmental affairs and decision making. In this regard, it is mandated to ensure the protection of the environment and conservation of natural resources, balanced with sustainable development and the equitable distribution of the benefits derived from natural resources. In its quest for better use and management of the natural environment, the DEA is guided by its constitutional mandate, as contained in section 24 of the Constitution.

In terms of South Africa's Constitution, responsibility for the environment is shared between provincial and national government. Decision-making on EIAs is, under most circumstances, is a provincial competency. This is true for this Project, with DENC being the competent authority in terms of this ESIA process (refer to *Provincial* section below).

#### *Department of Water Affairs (DWA)*

The DWA falls within the Ministry of Water and Environmental Affairs and is the custodian of South Africa's water resources. While striving to ensure that all South Africans gain access to clean water and safe sanitation, the department also promotes effective and efficient water resources management to ensure sustainable economic and social development.

Unlike the DEA which has separate government departments in each province, DWA has regional offices in different areas. Should registration or a Water Use License be required for the Project, application would be made to the regional offices of the DWA in the Northern Cape.

#### *Department of Mineral Resources (DMR)*

The Department of Mineral Resources (DMR) seeks to promote and regulate the mining activities and the use of mineral resources to ensure that all South Africans derive sustainable benefit from the country's mineral wealth.

The DMR is responsible for the issuing and management of prospecting rights, mining rights, exploration rights and production rights. In addition to this, DMR will be involved in this ESIA process, predominantly as a commenting authority.

#### *Department of Energy (DME)*

The Department has been mandated with the responsibility of ensuring secure and sustainable provision of energy for socio-economic development in South Africa.

#### *South African Heritage Resources Agency (SAHRA)*

SAHRA is the national body responsible for policy development for heritage resources management. They are the controlling authority in terms of the National Heritage Resources Act (Act 25 of 1999). SAHRA administers heritage in the province particularly where archaeology and palaeontology are the dominant concerns. Archaeology, including rock art, graves of victims of conflict and other graves not in formal cemeteries, built environments are administered by the national heritage authority, SAHRA.

### **1.2.2**

#### ***Provincial***

#### *Northern Cape Department of Environment and Nature Conservation (DENC)*

Northern Cape Department of Environment and Nature Conservation (DENC) is the provincial department responsible for tourism, environmental affairs and conservation in the Northern Cape. DENC's mission is to 'conserve and protect the natural environment for the benefit, enjoyment and welfare of present and future generations by integrating sustainable utilisation with socio-economic development'.

With regard to this ESIA process, DENC is the competent authority for this Project and will be responsible for making a decision as to whether or not to authorise the Project.

### **1.2.3**      *Municipal*

Certain Departments, such as the Planning and Roads Departments, from the Namakwa District Municipality will also be involved as commenting authorities for the EIA. External to the EIA but also relevant to the project are land-use planning applications which are dealt with by the planning departments at a local government level.

## **1.3**      **LEGISLATIVE AND POLICY REQUIREMENTS**

The Project is subject to legislative and policy requirements at a national and provincial level. The most important of these are listed below.

- National Environmental Management Act (No. 107 of 1998), as amended;
- National Environmental Management: Waste Act (No. 59 of 2008);
- Mineral and Petroleum Resources Development Act (No. 28 of 2002)
- National Heritage Resources Act (No. 25 of 1999)
- National Environmental Management: Air Quality Act, 2008 (No. 39 of 2008)
- National Water Act (No. 36 of 1998);
- The National Environmental Management: Biodiversity Act, 2008 (No. 10 of 2004);
- The National Forests Act (No. 84 of 1998);
- Water Services Act (No. 108 of 1997);
- Hazardous Substances Act (No. 56 of 1973);
- Explosives Act (No. 15 of 2003);
- Noise control regulations (GNR.154 of January 1992) under the Environmental Conservation Act (No. 73 of 1989);
- The Occupational Health and Safety Act (No. 85 of 1993);
- Conservation of Agricultural Resources Act (Act 43 of 1983); and
- Northern Cape Nature Conservation Act (No. 9 of 2009).

A brief description of the requirements in the above listed Acts and Regulations is provided below.

### **1.3.1**      ***National Environmental Management Act (No. 107 of 1998)***

The National Environmental Management Act (NEMA) is a framework Act which embraces three major areas of environmental concern, namely resource conservation and exploitation; pollution control and waste management; and land use planning and development. It is also underpinned by the globally accepted principle of sustainable development.

Some of the most important provisions set out in terms of NEMA that are applicable to the Project have already been described in Chapter 2 of the ESIA report, including:

- The NEMA principles; and
- Environmental Authorisations and associated regulations (ie EIA 2010 regulations - GNR 543, 544, 545 & 546).

Additional requirements of NEMA and the EIA Regulations which are considered important to highlight in the context of the ESIA process are briefly detailed below. These include the following:

- NEMA 'duty of care';
- Emergency incidents;
- Report requirements for an EIA;
- Public participation requirements; and
- Consideration of alternatives.

#### *Duty of care*

Section 28 of the NEMA contains a requirement for duty of care and remediation of environmental damage. Accordingly:

- (1) Every person who causes, has caused or may cause significant pollution or degradation of the environment must take reasonable measures to prevent such pollution or degradation from occurring, continuing or recurring, or, in so far as such harm to the environment is authorised by law or cannot reasonably be avoided or stopped, to minimise and rectify such pollution or degradation of the environment.
- (2) Without limiting the generality of the duty in subsection (1), the persons on whom subsection (1) imposes an obligation to take reasonable measures, include an owner of land or premises, a person in control of land or premises or a person who has a right to use the land or premises on which or in which:
  - (a) Any activity or process is or was performed or undertaken; or
  - (b) Any other situation exists, which causes, has caused or is likely to cause significant pollution or degradation of the environment.

The measures required in terms of subsection (1) may include measures to:

- a) Investigate, assess and evaluate the impact on the environment;
- b) Inform and educate employees about the environmental risks of their work and the manner in which their tasks must be performed in order to avoid causing significant pollution or degradation of the environment;

- c) Cease, modify or control any act, activity or process causing the pollution or degradation;
- d) Contain or prevent the movement of pollutants or the causant of degradation;
- e) Eliminate any source of the pollution or degradation; or
- f) Remedy the effects of the pollution or degradation.

The provisions of NEMA support the “polluter pays” principle and there have been several instances where polluters have been successfully sued by the government to recover costs of clean-up in terms of these provisions.

#### *Emergency Incidents*

Section 30 of NEMA provides for the control of “emergency incidents” which could cause potentially serious pollution or detriment to the environment. The responsible party is obliged to remedy the effects of the incident and take all measures to contain and minimise the environmental effects and any risks posed to health, safety and property as a consequence of an “emergency incident” as soon as is reasonably practicable. In addition, the responsible party must:

- Undertake clean-up procedures, remedy effects of the incident and assess the immediate and long-term effects of the incident on environmental and public health;
- Follow relevant authority (local authority) orders to contain, minimise and remedy the effects of the incident or pay reasonable costs incurred by the authority if such measures are undertaken themselves; and
- Confirm verbal directives for mitigation measures from the authority within 7 days of the incident.

#### *Public Participation Process requirements in terms of NEMA*

The general objectives of integrated environmental management laid down in NEMA include “ensuring adequate and appropriate opportunity for public participation in decisions that may affect the environment” <sup>(1)</sup>. Furthermore, one of the NEMA principles set out in terms of Section 2 is that “the participation of all interested and affected parties in environmental governance must be promoted, and all people must have the opportunity to develop the understanding, skills and capacity necessary to achieving equitable and effective participation, and participation by vulnerable and disadvantaged persons must be ensured”.

The general PPP that needs to be followed when undertaking an environmental authorisation process in terms of NEMA is set out in terms of Chapter 6 of GNR. 543 of 18 June 2010. Specific participation requirements that are applicable to the Project are set out in *Table 1.1* below.

Specific provisions contained within the 2010 EIA regulations and the sections from the ESIA report that correspond with such requirements are set out in *Table 1.1* below.

**Table 1.1** *PPP requirements in terms of the NEMA EIA regulations (GNR 543 of 2010)*

<b>Section No.</b>	<b>Extract from regulation</b>
<b>GNR 543 Reg. 54(1&amp;2a)</b>	<p><b>54. Public participation process.</b></p> <p>54 (1) This regulation only applies in instances where adherence to the provisions of this regulation is specifically required.</p> <p>54 (2) The person conducting a public participation process must take into account any 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 the application which is subjected to public participation by:</p> <p>54 (2)(a) fixing a notice board at a place conspicuous to the public at the boundary or on the fence of:</p> <ul style="list-style-type: none"> <li>(i) the site where the activity to which the application relates is or is to be undertaken; and</li> <li>(ii) any alternative site mentioned in the application;</li> </ul>
<b>GNR 543 Reg. 54(2)(b)</b>	<p><b>54. Public participation process.</b></p> <p>54 (2)(b) giving written notice to:</p> <ul style="list-style-type: none"> <li>(i) the owner or person in control of that land if the applicant is not the owner or person in control of the land;</li> <li>(ii) the occupiers of the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;</li> <li>(iii) owners and occupiers of land adjacent to the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;</li> <li>(iv) 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;</li> <li>(v) the municipality which has jurisdiction in the area;</li> <li>(vi) any organ of state having jurisdiction in respect of any aspect of the activity; and</li> <li>(vii) any other party as required by the competent authority;</li> </ul>
<b>GNR 543 Reg. 54(2)(c)</b>	<p><b>54. Public participation process.</b></p> <p>54 (2)(c) placing an advertisement in:</p> <ul style="list-style-type: none"> <li>(i) one local newspaper; or</li> <li>(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;</li> </ul>

- GNR 543  
Reg. 54(2)(d)**      **54. Public participation process.**
- 54 (2)(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 local 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
- GNR 543  
Reg. 54(2)(e)**      **54. Public participation process.**
- 54 (2)(e) using reasonable alternative methods, as agreed to by the competent authority, in those instances where a person is desiring of but unable to participate in the process due to:
- (i) illiteracy;
  - (ii) disability; or
  - (iii) any other disadvantage.
- GNR 543  
Reg. 54(3)**      **54. Public participation process.**
- 54 (3) A notice, notice board or advertisement referred to in subregulation (2) must:
- 54 (3)(a) give details of the application which is subjected to public participation; and
- 54 (3)(b) state:
- (i) that the application has been submitted to the competent authority in terms of these Regulations;
  - (ii) whether basic assessment or scoping procedures are being applied to the application, in the case of an application for environmental authorisation;
  - (iii) the nature and location of the activity to which the application relates;
  - (iv) where further information on the application or activity can be obtained; and
  - (v) the manner in which and the person to whom representations in respect of the application may be made.
- GNR 543  
Reg. 54(4)**      **54. Public participation process.**
- 54 (4) A notice board referred to in subregulation (2) must:
- 54 (4)(a) be of a size at least 60cm by 42cm; and
- 54 (4)(b) display the required information in lettering and in a format as may be determined by the competent authority.
- GNR 543  
Reg. 54(5)**      **54. Public participation process.**
- 54 (5) Where deviation from subregulation (2) may be appropriate, the person conducting the public participation process may deviate from the requirements of that subregulation to the extent and in the manner as may be agreed to by the competent authority.

GNR 543  
Reg. 54(6)

**54. Public participation process.**

54 (6) Where a basic assessment report, scoping report or environmental impact assessment report as contemplated in regulations 22, 28 and 31 respectively is amended because it has been rejected or because of a request for additional information by the competent authority, and such amended report contains new information, the amended basic assessment report, scoping report or environmental impact assessment report must be subjected to the processes contemplated in regulations 21, 27 and 31, as the case may be, on the understanding that the application form need not be resubmitted.

GNR 543  
Reg. 54(7)

**54. Public participation process.**

54 (7) When complying with this regulation, the person conducting, the public participation process must ensure that:

54 (7)(a) information containing all relevant facts in respect of the application is made available to potential interested and affected parties; and

54 (7)(b) participation by potential interested and affected parties is facilitated in such a manner that all potential interested and affected parties are provided with a reasonable opportunity to comment on the application.

GNR 543  
Reg. 54(8)

**54. Public participation process.**

54 (8) Unless justified by exceptional circumstances, as agreed to by the competent authority, the applicant and EAP managing the environmental assessment process must refrain from conducting any public participation process during the period of 15 December to 2 January.

GNR 543  
Reg. 55(1)

**55. Register of interested and affected parties.**

55 (1) An EAP managing an application must open and maintain a register which contains the names, contact details and addresses of:

55 (1)(a) all persons who, as a consequence of the public participation process conducted in respect of that application in terms of regulation 54, have submitted written comments or attended meetings with the applicant or EAP;

55 (1)(b) all persons who, after completion of the public participation process referred to in paragraph (a), have requested the applicant or the EAP managing the application, in writing, for their names to be placed on the register; and

55 (1)(c) all organs of state which have jurisdiction in respect of the activity to which the application relates.

GNR 543  
Reg. 55(2)

**55. Register of interested and affected parties.**

55 (2) An EAP managing an application must give access to the register to any person who submits a request for access to the register in writing.

**GNR 543  
Reg. 56(1)**

**56. Registered interested and affected parties entitled to comment on submissions.**

56 (1) A registered interested and affected party is entitled to comment, in writing, on all written submissions, including draft reports made to the competent authority by the applicant or the EAP managing an application, and to bring to the attention of the competent authority any issues which that party believes may be of significance to the consideration of the application, provided that:

56 (1)(a) comments are submitted within:

- (i) the timeframes that have been approved or set by the competent authority; or
- (ii) any extension of a timeframe agreed to by the applicant or EAP;

56 (1)(b) a copy of comments submitted directly to the competent authority is served on the EAP; and

(c) 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.

**GNR 543  
Reg. 56(2)**

**56. Registered interested and affected parties entitled to comment on submissions.**

56 (2) Before the EAP managing an application for environmental authorisation submits a final report compiled in terms of these Regulations to the competent authority, the EAP must give registered interested and affected parties access to, and an opportunity to comment on the report in writing.

**GNR 543  
Reg. 56(4)**

**56. Registered interested and affected parties entitled to comment on submissions.**

56 (4) The draft versions of reports referred to in subregulation (3) must be submitted to the competent authority prior to awarding registered interested and affected parties an opportunity to comment.

**GNR 543  
Reg. 56(5)**

**56. Registered interested and affected parties entitled to comment on submissions.**

56 (5) Registered interested and affected parties must submit comments on draft reports contemplated in subregulation (4) to the EAP, who should record it in accordance with regulations 21, 28 or 31.

**GNR 543  
Reg. 56(6)**

**56. Registered interested and affected parties entitled to comment on submissions.**

56 (6) Registered interested and affected parties must submit comments on final reports contemplated in subregulation (3) to the competent authority and provide a copy of such comments to the applicant or EAP.

**GNR 543  
Reg. 57(1) 57. Comments of interested and affected parties to be recorded in reports submitted to competent authority.**

57 (1) The EAP managing an application for environmental authorisation must ensure that the comments of interested and affected parties are recorded in reports and that such written comments, including records of meetings, are attached to the report, submitted to the competent authority in terms of these Regulations.

**GNR 543  
Reg. 57(2) 57. Comments of interested and affected parties to be recorded in reports submitted to competent authority.**

57 (2) Where a person is desiring but 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.

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### *Consideration of Alternatives*

In terms of Section 28 of the EIA Regulations R543 (2010), due consideration of project alternatives are required during the ESIA process is required. The 2010 EIA Regulations defines “*alternatives*” as:

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

- a) the property on which or location where it is proposed to undertake the activity;
- b) the type of activity to be undertaken;
- c) the design or layout of the activity;
- d) the technology to be used in the activity;
- e) the operational aspects of the activity; and
- f) the option of not implementing the activity” (the ‘no-go’ option).

Various potential alternatives (location and design/ technology) have been identified and investigated in this section. Section 31 (2) (g) of the 2010 EIA Regulations requires a description of *feasible* and *reasonable* alternatives to be considered in the ESIA Report. In essence, an alternative is a different means to meet the general purpose and need of an action. In terms of the EIA Regulation (2012), alternatives could include, amongst others, the following:

- ***Activity alternatives*** – also referred to as project alternatives. This requires a change in the nature of the proposed activity. This category of alternatives is most appropriate at a strategic decision-making level. This includes the ‘no-go’ option.

- *Location alternatives* – alternative locations for the entire project proposal, or for components of the project proposal (i.e. on-site location alternatives).
- *Process alternatives* – also referred to as technological or equipment alternatives. The purpose of considering such alternatives is to include the option of achieving the same goal by using a different method or process.
- *Site layout alternatives* – site layout alternatives permit consideration of different spatial configurations of an activity on a particular site.

The project components and on-site activities are considered in relation to the above categories and are explored in further detail below. It must be noted that it is mandatory to consider the “no go” alternative as part of the ESIA process. The “no-go” or “do nothing” option would entail maintaining the status quo. Although this option will not be explicitly assessed in this ESIA Report, it should be noted that the assessment of all impacts is made relative to the existing baseline environment viz. the status quo, and accordingly there is de facto consideration of the “no go” option.

### 1.3.2 *National Environmental Management: Waste Act, 2008 (No. 59 of 2008)*

The National Environmental Management: Waste Act (NEMWA) is the major piece of legislation governing waste management in South Africa and is relevant to all aspects of both hazardous and non-hazardous waste management.

Key provisions in terms of NEMWA that will apply to the Project during its construction and operational phases are detailed below.

#### *General duties of holders of waste*

Section 16 of the Act sets out the general duties with respect to environmentally sound waste management, which any ‘holder of waste’ is obliged to adhere to. This requires taking all reasonable measures to:

- avoid the generation of waste and where such generation cannot be avoided, to minimise the toxicity and amounts of waste that are generated;
- reduce, re-use, recycle and recover waste;
- ensure that the waste is treated and disposed of in an environmentally sound manner, only when it cannot be disposed of;
- manage the waste in such a manner that it does not endanger health or the environment or cause a nuisance through noise, odour or visual impacts;
- prevent any employee or any person under his or her supervision from contravening this Act; and

- prevent the waste from being used for an unauthorised purpose.

#### *Reduction, re-use, recycling and recovery of waste*

Section 17 of the Act requires any person involved in the reduction, re-use, recycling and recovery of waste to undertake such activities using less natural resources and in such a way as to cause less environmental harm than would be the case if the same waste were to be disposed of.

#### *Storage, collection and transportation of waste*

Part 5 of the Act sets out the general requirements regarding the storage, collection and transportation of waste. According to Section 21, any person who stores waste must take the necessary steps to prevent environmental harm, by ensuring that:

- The containers in which any waste is stored, are intact and not corroded or in any other way rendered unfit for the safe storage of waste;
- Adequate measures are taken to prevent accidental spillage or leaking;
- The waste cannot be blown away;
- Nuisances such as odour, visual impacts and breeding of vectors do not arise; and
- Pollution of the environment and harm to health are prevented.

Only an authorised person is able to remove such waste and this needs to be transported in a particular way, as specified by section 25 of the Act.

#### *Remediation of Contaminated Sites*

Prior to the promulgation of NEMWA, remediation of contaminated land was primarily regulated in terms of Section 28 of NEMA and the National Water Act (NWA). This relates to the Duty of Care provision contained within NEMA and Section 19 of NWA, which relates to prevention and remedying the effects of pollution. Part 8 of the Waste Act builds on this existing legislation by providing a more coherent administrative framework and set of procedures, which are intended to be retroactively active.

Essentially, Part 8 deals with polluted or contaminated land and requires anyone who has polluted land to take responsibility to assess the extent of contamination and to pay for the cleaning and rehabilitation of such land.

Although this part of the Act is not yet in effect, owing to the lack of norms and standards to make these provisions effective, this section may have implications for the project in the future. *Box 1.1* (below) provides additional

information on the current status of Part 8, namely the 'contaminated land' section of NEMWA.

**Box 1.1**

***Current Status of the 'contaminated land' Section of the Waste Act***

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Given the implications of Sections 36 – 41, it is not surprising that these provisions have been withheld from the version of the Act that came into effect in July 2009. The main reason purportedly for the exclusion of these sections is the lack of norms and standards which are necessary to make the provisions effective.

The "Framework for the Management of Contaminated Land" guidance document was published by the Department of Environmental Affairs in May 2010. This document defines soil screening values for a number of chemical compounds for preliminary assessment of contaminated land and it describes the phased process by which contaminated land should be assessed. Of note is that the Framework recognises that site specific quantitative risk assessment (QRA) is international best practice and provides guidance for the use of QRA to assess contaminated land.

Although the soil screening values provide norms and standards to support enactment of Sections 36-41, this has not yet happened.

The process of finalising the norms and standards to bring part 8 of the new Waste Act into effect is currently underway and should be completed towards the end of this year (2011). The existing Sections 36 – 41, as described above, will not change. They will come into effect by a proclamation of a Government Gazette Notice as soon as they can be supported by the norms and standards.

**1.3.3**

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

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The objectives of the MPRDA, inter alia, is to promote equitable access to the nations minerals and petroleum resources, expand opportunities for previously disadvantaged individuals, promote economic growth and mineral and petroleum resources development (objective), employment opportunities and ensure that the holders of the mining right contribute to the socio-economic development on the surrounding communities.

While key MPRDA provisions that are applicable to the Project are detailed in *Chapter 2* of the ESIA report, specific MPRDA ESIA report and public participation requirements are summarised below.

In terms of Regulation 49 of the MPRDA Regulations an ESIA report must contain, as a minimum, the following information requirements (see *Box 1.2* below):

**Box 1.2**

***MPRDA Information Requirements for Environmental and Social Impact Assessment Reports***

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**Section 50. Contents of environmental impact assessment report.**

The contents of an environmental impact assessment report must include the following:

- (a) An assessment of the environment likely to be affected by the proposed mining operation, including cumulative environmental impacts;
  - (b) an assessment of the environment likely to be affected by the identified alternative land use or developments, including cumulative environmental impacts;
  - (c) an assessment of the nature, extent, duration, probability and significance of the identified potential environmental, social and cultural impacts of the proposed mining operation, including the cumulative environmental impacts;
  - (d) a comparative assessment of the identified land use and development alternatives and their potential environmental, social and cultural impacts;
  - (e) determine the appropriate mitigatory measures for each significant impact of the proposed mining operation;
  - (f) details of the engagement process of interested and affected persons followed during the course of the assessment and an indication of how the issues raised by interested and affected persons have been addressed;
  - (g) identify knowledge gaps and report on the adequacy of predictive methods, underlying assumptions and uncertainties encountered in compiling the required information;
  - (h) description of the arrangements for monitoring and management of environmental impacts; and
  - (i) inclusion of technical and supporting information as appendices, if any.
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*Public Participation Process requirements in terms of the MPRDA*

Certain provisions contained in the Minerals and Petroleum Resources Development Act (No. 28 of 2002) require notification and consultation with communities and relevant Regional managers, in order to gain Mining Rights in terms of the Act. The purpose of such consultation and notification procedures is to provide relevant stakeholders *'with the necessary information about the proposed prospecting or mining project so that they can make informed decisions, and to see whether some accommodation with them is possible insofar as the interference with their rights to use the affected properties is concerned'* (DMR, date unknown). Consultation under the Act's provisions therefore requires engaging in good faith to attempt to reach such accommodation.

Specific provisions contained within the Act and its regulations and the sections from the ESIA report that correspond with such requirements are set out in *Table 1.2* below.

**Table 1.2** *PPP requirements in terms of the MPDRA and its regulations*

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Section No.	Extract from regulation
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<b>Section No.</b>	<b>Extract from regulation</b>
<b>Section 10(1)(b)</b>	<p><b>10. Consultation with interested and affected parties.</b></p> <p>(1) Within 14 days after accepting an application lodged in terms of section 16, 22 or 27, the Regional Manager must in the prescribed manner:</p> <p>(b) call upon interested and affected persons to submit their comments regarding the application within 30 days from the date of the notice.</p>
<b>Section 22(4)(b)</b>	<p><b>22. Application for mining right.</b></p> <p>(4) If the Regional Manager accepts the application, the Regional Manager must, within 14 days from the date of acceptance, notify the applicant in writing:</p> <p>(b) to notify and consult with interested and affected parties within 180 days from the date of the notice.</p>
<b>Section 39(4)(b)</b>	<p><b>39. Environmental management programme and environmental management plan.</b></p> <p>4(b) The Minister may not approve the environmental management programme or the environmental management plan unless he or she has considered:</p> <p>(i) any recommendation by the Regional Mining Development and Environmental Committee; and</p> <p>(ii) the comments of any State department charged with the administration of any law which relates to matters affecting the environment.</p>
<b>Section 40(1&amp;2)</b>	<p><b>40. Consultation with State departments.</b></p> <p>(1) When considering an environmental management plan or environmental management programme in terms of section 39, the Minister must consult with any State department which administers any law relating to matters affecting the environment.</p> <p>(2) The Minister must request the head of a department being consulted, in writing, to submit the comments of that department within 60 days from the date of the request.</p>
<b>GNR 527 Reg. 3 (1&amp;2)</b>	<p><b>3. Consultation with interested and affected persons.</b></p> <p>3 (1) The Regional Manager or designated agency, as the case may be, must make known by way of a notice, that an application contemplated in regulation 2, has been accepted in respect of the land or offshore area, as the case may be.</p> <p>3 (2) The notice referred to in subregulation (1) must be placed on a notice board at the office of the Regional Manager or designated agency, as the case may be, that is accessible to the public.</p>

<b>Section No.</b>	<b>Extract from regulation</b>
<b>GNR 527 Reg. 3(3)(a-c)</b>	<p><b>3. Consultation with interested and affected persons.</b></p> <p>3 (3) In addition to the notice referred to in subregulation (1), the Regional Manager or designated agency, as the case may be, must also make known the application by at least one of the following methods:</p> <p>3 (3)(a) publication in the applicable Provincial Gazette;</p> <p>3 (3)(b) notice in the Magistrate’s Court in the magisterial district applicable to the land in question; or</p> <p>3 (3)(c) advertisement in a local or national newspaper circulating in the area where the land or offshore area to which the application relates, is situated.</p>
<b>GNR 527 Reg. 3(4)(a-c)</b>	<p><b>3. Consultation with interested and affected persons.</b></p> <p>3 (4) A publication, notice or advertisement referred to in subregulation (3) must include:</p> <p>3 (4)(a) an invitation to members of the public to submit comments in writing on or before a date specified in the publication, notice or advertisement, which date may not be earlier than 30 days from the date of such publication, notice or advertisement;</p> <p>3 (4)(b) the name and official title of the person to whom any comments must be sent or delivered; and</p> <p>3 (4)(c) the –</p> <ul style="list-style-type: none"> <li>(i) work, postal and street address and, if available, an electronic mail address;</li> <li>(ii) work telephone number; and</li> <li>(iii) facsimile number, if any, of the person contemplated in paragraph (b)</li> </ul>
<b>GNR 527 Reg. 50(f)</b>	<p><b>50. Contents of environmental impact assessment report.</b></p> <p>The contents of an environmental impact assessment report must include the following:</p> <p>(f) details of the engagement process of interested and affected persons followed during the course of the assessment and an indication of how the issues raised by interested and affected persons have been addressed;</p>
<b>GNR 527 Reg. 62(j)</b>	<p><b>62. Contents of closure plan.</b></p> <p>A closure plan contemplated in section 43 (3) (d) of the Act, forms part of the environmental management programme or environmental management plan, as the case may be, and must include:</p> <p>(j) a record of interested and affected persons consulted;</p>

### 1.3.4

#### *National Heritage Resources Act (No. 25 of 1999)*

The protection and management of South Africa’s heritage resources is controlled by the National Heritage Resources Act (NHRA). The objective of

the NHRA is to introduce an integrated system for the management of national heritage resources.

Permitting requirements in terms of NHRA are described in more detail in *Chapter 2* of the ESIA report.

### **1.3.5 *National Environmental Management: Air Quality Act, 2008 (No. 39 of 2008)***

The aim of the National Environment Management: Air Quality Act (NEMAQA) is to govern the release of pollutants in order to manage air quality parameters, norms and standards within South Africa.

Licensing requirements in terms of NEMAQA are described in more detail in *Chapter 2* of the ESIA report.

### **1.3.6 *National Water Act (No. 36 of 1998)***

The National Water Act (NWA) provides for the sustainable and equitable use and protection of water resources. It is founded on the principle that the National Government has overall responsibility for and authority over water resource management, including the equitable allocation and beneficial use of water in the public interest, and that a person can only be entitled to use water if the use is permissible under the NWA. The Department of Water Affairs (herein referred to as DWA) is the delegated custodian of water resources in South Africa. Part of the DWA mandate is to enact and enforce the legal requirements outlined in the NWA.

Key provisions that are applicable to the Project are detailed in *Chapter 2* of the ESIA report.

### **1.3.7 *The National Environmental Management: Biodiversity Act, 2008 (No. 10 of 2004)***

The National Environmental Management: Biodiversity Act (NEMBA) serves to provide a framework for the management and conservation of South African biodiversity, under the auspices of the NEMA. This legislation promotes the sustainable use of natural biological resources, ensuring equitable access and sharing of benefits arising from the use of biological resources.

Permitting requirements in terms of NEMBA are described in *Chapter 2* of the ESIA report. This section provides details on some additional aspects of NEMBA relating to the listing of threatened ecosystems, alien species, invasive species and duty of care. These will be applicable to the Project during its construction and operational phases.

Section 52 of NEMBA provides for the publication of a national list of ecosystems that are threatened and in need of protection. A list of threatened ecosystems in the terrestrial environment was published on 9 December 2011 in GN 1002 GG 34809. The list, which provides that only 9.5% of natural areas

remain in threatened terrestrial ecosystems in South Africa aims to reduce the rate of ecosystem and species extinction in these areas. 53 critically endangered ecosystems, 53 endangered and 107 vulnerable ecosystems have been listed. Detail of the location and description of each listed threatened terrestrial ecosystem is provided, including the province and municipality in which the ecosystem is located. Reference is also made to protection status of the ecosystem (ie if it falls within a Nature Reserve, World Heritage Site etc.) and (where possible) the known number of species of special concern found in the ecosystem (ie red data animal and plant species). Activity 12 of GNR. 546 of the NEMA listed activities requires basic assessment for the clearance of 300m<sup>2</sup> or more of vegetation where 75% or more of the vegetative cover constitutes indigenous vegetation within any listed critically endangered or endangered ecosystem. As this activity is triggered by the Project, authorisation shall be sought through submission of the NEMA environmental authorisation application.

### *Alien Species*

In terms of section 65(1) of the Act, any person wishing to undertake a restricted activity involving a specimen of an alien species must have a permit to do so. In this regard, Section 65(2) says that a permit to carry out a 'restricted activity' may only be issued once an assessment of the risks and potential impact on biodiversity has been carried out. While exemption for the above permitting requirement can be granted by the Minister, the Minister may also publish a list of those alien species in respect of which a permit may not be issued (Section 67(1)). No person may carry out any restricted activity involving such a specimen.

### *Duty of Care*

The Act also provides for a duty of care, which relates to alien species in that a permit holder carrying out a restricted activity must not only comply with the permit conditions, but must also 'take all reasonable steps to prevent or minimise harm to biodiversity' [Section 69(1)]. A competent authority may, in writing, direct any person who fails to comply with this to take preventative steps to remedy any harm to biodiversity and as may be specified in the directive. Should the person fail to comply with the directive, the competent authority may implement the directive and recover all costs from that person incurred by the competent authority in doing so. Furthermore, should the alien species establish itself in nature as an invasive species because of the actions of a specific person, that person may be held liable for any costs incurred in the control and eradication of that species [Section 69(4)].

### *Invasive Species*

Similar to the provisions for alien species, a person may not carry out a 'restricted activity', involving a specimen of a listed invasive species without a permit. This permit may similarly only be issued after a prescribed assessment of risks and potential impacts on biodiversity (Section 71). This provision is has broader application than the previously mentioned duty of care provision,

as it imposes an obligation on land owners, on which a listed invasive species occurs, to:

- Notify any relevant authority of the location of the species;
- Take all steps to control and eradicate it;
- Prevent it from spreading; and
- Take all the required steps to prevent or minimise harm to biodiversity.

A competent authority may direct any person who fails to comply with this duty to carry out the necessary steps to remedy any harm to biodiversity. Again, if the person fails to comply, the authority may implement the directive and recover the costs from that person or proportionally from other persons who benefitted from the implementation of the directive [Section 73(4)].

### **1.3.8**      *The National Forests Act (No. 84 of 1998)*

The National Forests Act (NFA) deals with the protection of trees. The Minister is required to annually publish a list of all species protected under Section 12. No person undertake any of the following restricted activities involving a listed tree species, except under licence granted by the Minister:

- cut, disturb, damage, destroy or remove any listed tree species; or
- collect, remove, transport, export, purchase, sell, donate or in any other manner acquire or dispose of any listed tree species.

Applications for such activities shall be made to the responsible official in the Northern Cape Province.

### **1.3.9**      *Water Services Act (No. 108 of 1997)*

The Water Services Act (WSA) governs water supply and sanitation services. In terms of Section 6, approval from the Regional Department of Water Affairs will be necessary in order to use water from a source other than one nominated by the relevant water services authority.

Furthermore, the organisation may only use water and dispose of effluent from and to sources approved by the Regional Department of Water Affairs, unless the water source has been used prior to 1997 and the Water Services Authority have not requested an application for approval, or it is within 60 days of this approval request.

### **1.3.10**     *Hazardous Substances Act (No. 56 of 1973)*

The aim of the Hazardous Substances Act (No. 56 of 1973) is to provide for the control of substances which may cause injury or ill-health to or death of human beings by reason of their toxic, corrosive, irritant, strongly sensitizing or flammable nature, and for the control of certain electronic products. It is

also to provide for the classification of such substances and products according to the degree of danger.

The Act requires generators of waste to obtain a license for the manufacture, modification, transport, storage, dumping or disposal of substances listed under the four groups of hazardous substances.

Group I and II include toxic substances that may be found on a hazardous landfill.

Group III relates to electronic products and Group IV relates to radioactive substances, which may not be disposed of on a landfill.

### 1.3.11 *Explosives Act (No. 15 of 2003)*

The Explosives Act (No. 15 of 2003) aims to protect workers and the public from the hazards associated with the illegal and/or unsafe use of explosive materials by regulating its use, handling, storage and transport.

In terms of this Act, no person may possess explosives or carry out any activity relating to explosives unless he or she holds a licence, permit or authorisation issued in terms of this Act.

### 1.3.12 *Noise control regulations (GNR.154 of January 1992) under the Environmental Conservation Act (No. 73 of 1989)*

The Noise Control Regulations (GNR.154 of January 1992) in terms of section 25 of the Environment Conservation Act, 1989 (No. 73 of 1989) govern the level of noise permitted, time restrictions and the penalty for being in contravention of permissible noise levels. Adherence with these regulations will principally be required during the construction and operational phase of the project.

In addition to this, SANS 10103 specifies acceptable noise levels for rural, urban and industrial environments. These thresholds are tabulated below.

**Table 1.3** *Noise Thresholds in terms of SANS 10103*

	Day Time Threshold (Outdoors)	Day Time Threshold (Indoors)	Night Time Threshold (Outdoors)	Night Time Threshold (Indoors)
Urban	55	45	45	35
Rural	45	35	35	25
Industrial	70	60	60	50

### 1.3.13 *The Occupational Health and Safety Act (No. 85 of 1993)*

The Occupational Health and Safety Act (OHS Act) provides, *inter alia*, for the health and safety of persons at work and for the health and safety of persons in connection with the use of plant and machinery and for the protection of persons, other than persons at work against, hazards to health and safety

arising out of or in connection with the activities of persons at work. The Department of Labour is responsible for the administration of this Act.

The OHS Act is supported by subordinate legislation, regulations and codes of practice, which give practical guidelines on how to manage health and safety issues. In this regard, a numerous regulations form an inseparable part of the Occupational Health and Safety Act. These regulations provide specifications and requirements towards the area that they govern.

*Box 1.3* provides a summary of the key OHS Act regulations that are applicable to the proposed Project.

### ***Box 1.3 Regulations promulgated under the OHS Act***

- 
- General safety regulations (1986)
  - Environmental regulations for workplaces (1987)
  - Driven machinery regulations (1988)
  - General machinery regulations (1988)
  - Hazardous chemical substances (HCS) regulations (1995)
  - Major hazard installation regulations (2001)
  - Asbestos regulations (2002)
  - Lead regulations (2002)
  - Explosives regulations (2003)
  - Noise-induced hearing loss regulations (2003)
  - General administrative regulations (2003)
  - Construction regulations (2003)
  - Facilities regulations (2004)
  - Electrical Installation Regulations (2009)
  - Pressure Equipment Regulations (2009)
  - Regulations on Hazardous Work by Children in South Africa (2010)
  - Lift, Escalator and Passenger Conveyor Regulations (2009)
  - Electrical Machinery Regulations (2011)
- 

#### ***1.3.14 Conservation of Agricultural Resources Act (Act 43 of 1983)***

The Conservation of Agricultural Resources Act provides for the regulation of control over the utilisation of the natural agricultural resources in order to promote the conservation of soil, water and vegetation and provides for combating weeds and invader plant species. Regulation 15 of GNR 1048 of 1984 published under the Conservation of Agricultural Resources Act (CARA) classifies categories of weeds and invader plants and restrictions placed on where these weeds may occur. Regulation 15E details requirements and methods to implement control measures for alien and invasive plant species. While no permit requirements will arise from this regulation, BMM will be required to ensure that no alien plants or weeds are introduced to the site due to Project activities.

#### ***1.3.15 The Northern Cape Nature Conservation Act (No. 9 of 2009)***

Consideration will also be given to the Northern Cape Nature Conservation Act (NCNCA), which came into force on 21 January 2010 and which repealed

the Ordinance on Nature Conservation in the Northern Cape. NCNCA prescribes restricted activities in relation to specially protected plants and animals species for which licencing is required. NCNCA furthermore prescribes prohibited acts in relation to invasive species, as well as restricted activities in relation to certain damage causing animals for which licencing is required.

A number of protected tree (i.e. *Acacia erioloba* – Camel Thorn) and fauna species have been identified to occur within the proposed Project area. To the extent that licences are required in terms of the NCNCA these should be obtained.

#### **1.3.16** *Municipal Bylaws*

Certain activities related to the Project may, in addition to the above mentioned national and provincial legislation, be subject to control by municipal by-laws for aspects such as planning, dust, noise and roads.

### **1.4** *BROADER POLICY AND PLANNING CONTEXT*

#### **1.4.1** *Northern Cape Provincial Growth and Development Strategy (2011)*

The Northern Cape Provincial Growth and Development Strategy (NCPGDS) (2011) plays a vital role in achieving efficacy in delivery of the overall strategic development objectives of Northern Cape. Although not currently a legislative requirement, the compilation of a PGDS enables stakeholders from the public, private, parastatal and labour and civil society to determine a plan for the sustainable growth and development of the Province. In this way, the collective efforts to promoting economic growth and social development can be achieved through adopting an integrated approach.

From the plethora of societal challenges that are prevalent in South Africa, the Northern Cape Government has identified the following aspects that require attention:

- Reducing the backlog of basic needs such as water, sanitation and housing;
- Improving and increasing access to health, education and social services;
- Decreasing the prevalence rate of TB, HIV and AIDS;
- Creating opportunities for employment;
- Reducing contact crime; and
- Targeting vulnerable groups.

The strategy identifies long-term sustainable economic growth and development as an effective means to target the key societal concerns. A suite of sectors have been identified as drivers behind such proposed economic growth. Mining is identified as an important economic sector to promote such growth, as well as agriculture and tourism. Furthermore, the NCPGDS recognises that to develop conditions that will enable economic growth and

development, human and social capital of the people of the province will need to be improved, through the following means:

- Creating opportunities for lifelong learning;
- Improving the skills of the labour force to increase productivity; and
- Increasing accessibility to knowledge and information.

As mentioned above, economic growth in the mining sector has been identified as being an important driver for development in the region. However, in order to achieve such growth, the NCPGDS recognises that it is important to take the following development strategies into account:

- The promotion of development synergies between the mining and other economic activities.
- The promotion of the role that mines play in terms of rural economic development.
- The promotion of further large-scale mining development.
- Minerals tax development.
- The promotion of industrial development and minerals beneficiation.

In encouraging economic growth within the Province, the NCPGDS also recognises the importance of biodiversity and water resources in the region. As such, economic growth, especially within the mining sector, is required to be undertaken in a responsible manner to promote growth and development, taking cognisance of environmental sensitivities in the region. Furthermore, the NCPGDS has a strong focus on the reduction of greenhouse gas emissions and its associated implications in terms of Climate Change.

#### **1.4.2 *The Northern Cape Provincial Spatial Development Framework (2012)***

Economic development imperatives inform spatial planning imperatives (van Zyl, 2013). A critical aspect of economic desirability is thus whether the proposed development complements economic planning as reflected in spatial development planning. Spatial Development Frameworks (SDFs) in particular are central to economic development planning and are drawn up in order to guide overall development in a direction that local and provincial authorities see as desirable (van Zyl, 2013). Indeed, the basic purpose of an SDF is to specify the spatial implications of Integrated Development Plans (IDPs) designed to optimise economic opportunities (van Zyl, 2013).

The Northern Cape Provincial Spatial Development Framework (July 2012) (NCPsDF) was developed in order to provide a long term vision of the core values, principles and strategies for the Northern Cape Province, in an attempt to address the key social, economic and biophysical challenges facing this region. The Framework is premised on the principle that, in order to

achieve the above vision, a holistic and all-embracing approach to the management of the Northern Cape is required.

The overarching goal of the NCPSDF is to ensure integration of development processes and, in particular, to facilitate sustainable development throughout the Province. This goal draws upon and aims to give effect to the vision put forward in the Northern Cape PGDS, namely to build a prosperous, sustainable growing provincial economy, which acts to eradicate poverty and improve social development. With respect to this, the document is informed by, and responds to, all applicable international agreements, conventions and protocols, and relevant national and provincial legislation and policies related to the sustainability concept.

In particular, the NCPSDF is intended to promote defined regional strategies goals and objectives, through providing direction on the following aspects:

- Instigating innovative economic interventions that may result from the establishment of a dynamic developmental state.
- Serving as a spatial land-use directive which promotes environmental, economic, and social sustainability through sustainable development.
- Facilitating integrated land-use planning.
- Prioritising relevant governmental programmes and projects.
- Ensuring efficient government performance.
- Providing a spatial rationale and directive for future development.
- Giving spatial effect to the provisions of the Northern Cape PGDS.
- Providing direction for the roll-out of national and provincial rural development programmes in the province.
- Providing guidance to public and private infrastructure investment in the province.
- Spatially coordinating and directing the resources and directives of the national and provincial government departments.
- Establish the Forum for Co-operative Planning and Development to perform functions and duties.
- Identify land-use issues of provincial and regional significance and put forward strategic intervention proposals.

The NCPSDF recognises the importance of the mining sector as a driver behind the region's economic growth. It also acknowledges the loss of value-

adding opportunities that result from the lack of processing activities currently being undertaken in the Province. This is said to be in direct conflict with one of the NCPSDF principles (i.e. bioregional planning), which is why the Provincial Government is intending to develop a central processing and logistics hub for the mining industry in the greater Springbok area, to rectify such shortcomings.

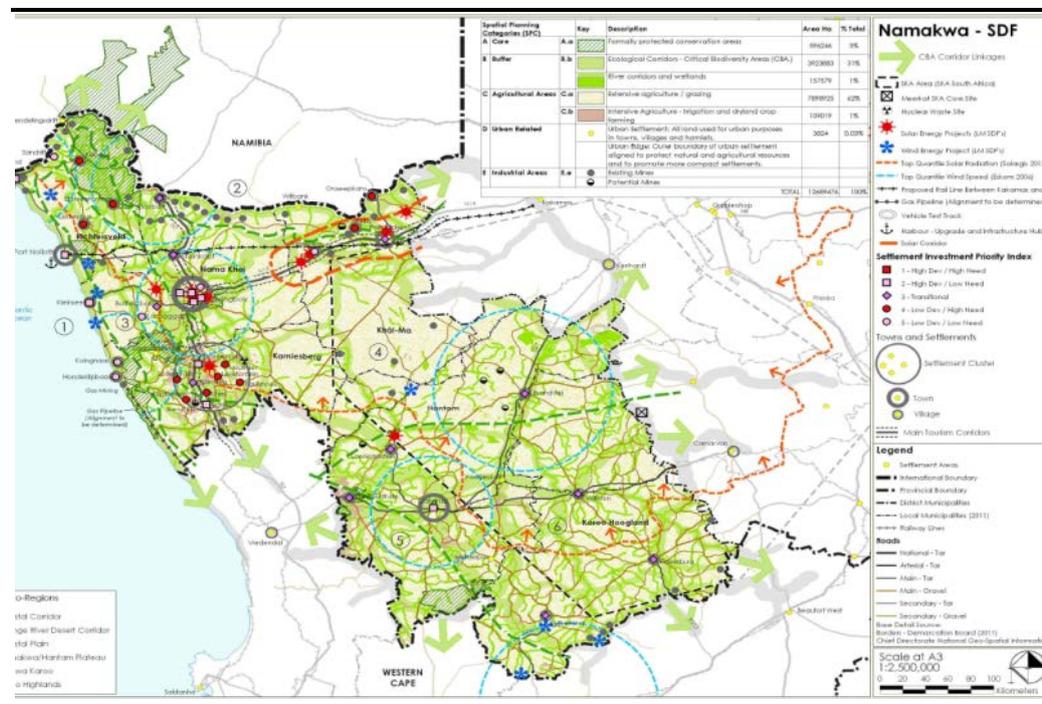
The cost and availability of suitable transport systems is also suggested to be a major hindrance for further development of the Northern Cape mining industry. To combat this, the NCPSDF calls for the Provincial Government to ensure that its regional development plans take cognisance of the potential demand for transport infrastructure to facilitate the development of new mineral operations.

Finally, whilst being imperative for the economic development of the Province, mining and other sectors (i.e. agriculture, urban development, bulk infrastructure and renewable energy installations), generally have a detrimental impact on the environment which, in turn, often manifests in a negative impact on human-wellbeing and on tourism in the region. The NCPSDF recognises this circumstance and the conservation worthiness of habitat in the area particularly that associated with inselbergs. As such, the NCPSDF sets out the following objectives and policies to ensure that development has a lasting benefit for both the people of the province and the environment:

- Offsetting direct detrimental impacts of resource use.
- Provide measures to cater for indirect impacts or impacts that may in the long-term emerge as a result of resource use.
- Unlock the latent benefit and synergies vested in the resource use in order to create a positive socio-economic legacy once the initial resource use has reached its productive life cycle.

Similarly, but in more detail, the Namakwa District SDF (2012) addresses these key trends in the area (*Figure 1.1* shows the composite map produced in the Namakwa District SDF). In addition, it proposes a conceptual Solar Corridor consisting of a roughly 30km wide strip of land with the N14 at its centre encompassing Aggeneys, as well as Pofadder and surrounds.

**Figure 1.1** *Namakwa District Municipality Spatial Development Framework Composite Map (2012)*



- Infrastructure upgrades; and
- Alternative energy production.

In addition to the above mentioned activities, the LED identifies the mining sector as one of the key potential development sectors within the District Municipality. In this regard, it is anticipated that the mining sector contributes 52.3% of the District Municipality's GDP and 21.3% of formal employment. In addition to the direct impact through exports and employment opportunities, the strategy also recognises the important role that mines play within communities, in terms of providing services such as clinics, crèches, training and skills development and business support programmes.

Furthermore, the strategy recognises that implications of the economic recession on mining activities and subsequent implications on employment opportunities. However, as global mineral markets are stabilising, mining is seen as an important activity to generate employment. The strategy acknowledges the large labour pool available for mining activities. However, as minerals are generally exported in its raw form, the resources are not fully utilised and beneficial to the region. There is a drive to encourage processing and manufacturing of minerals into final product, as this will result in increased economic development as well as additional employment opportunities.

Despite the large labour pool available, the strategy identifies the lack of technical and engineering skills. Labourers usually experience on-site training and access to basic educational facilities. This approach to skilling local communities does not result in the generation of skilled labourers to provide coordination and management of large economic ventures.

Finally, the strategy refers to a "One-Stop Mining Centre". This is envisaged as a facilitation centre where information and guidance on business opportunities will be made available, as well as assist with formulating business plans, proposals and tenders related to the local mining industry.

#### 1.4.4

#### *Khai Ma Integrated Development Plan (2006-2011)*

The Integrated Development Plan (IDP) constitutes the blueprint with respect to Khai Ma Municipality's strategies in addressing the socio-economic development needs of local communities (Local Government: Municipal Systems Act, Act 32 of 2000). As such, it reflects the key development focus areas agreed upon with communities and stakeholders in the Khai Ma municipality.

The following issues are highlighted in the Khai Ma IDP as local development areas that need specific attention/intervention:

- Increasing unemployment rates have placed additional strain on municipal service delivery as more people cannot afford to pay for

municipal services. Furthermore, approximately 77% of residents are considered impoverished and receive subsidies from government for their basic services.

- No rent is paid and no management or maintenance is undertaken by small upcoming farmers on farms allocated to them by government.
- There is a need for more land for livestock farming and irrigation farming.
- The erection of informal structures, especially at Pofadder and Pella, is a clear indication of the need for housing.
- There are no funds available to upgrade or extend the electricity network of Pofadder, which is very old.
- There are significant backlogs in relation to the provision of basic services (refer to *Table 1.4*).

**Table 1.4 Basic Services Backlog for Khai-Ma**

Community	No. of Households	Water	Electricity	Sanitation	Bucket	Refuse	Housing
Pofadder	808	48	230	48	0	0	205
Pella	685	48	0	103	166	0	463
Aggeneys	556	-	-	-	-	-	-
Onseepkans	345	40	53	45	0	0	196
Witbank	77	17	77	17	0	77	86
<b>Total</b>	<b>2471</b>	<b>1053</b>	<b>360</b>	<b>213</b>	<b>166</b>	<b>77</b>	<b>950</b>

Source: Khai-Ma IDP 2010-2011

In terms of the vision and mission set out in the IDP, the Local Municipality aims to utilise its limited resources in improving the quality of life of its residents by striving to provide improved basic services and create an environment conducive to investment through strengthening local economic development. In this regard, the utilisation of the areas rich mineral deposits (i.e. sillimanite, zinc, copper, lead, granite, quartz and aventurine) and its unexploited tourism potential are seen to provide opportunities for contributing to the much needed development of the local economy. In addition to this, the municipality commits to ensuring the health and safety of its residents through the provision, upgrading and extension of basic services infrastructure, as well as the provision of social services within the urban settlements of the municipality.

Throughout the IDP document the municipality highlights its pressing needs, developed objectives and strategies and identifies a number of projects that will seek to address these needs. In this regard, the unexploited mineral deposits at Gamsberg are identified in the IDP as being a significant potential growth point for the Municipality. Furthermore, one of the priority projects in the Local Municipality is supporting sustainable mining development at Gamsberg.

The Khai Ma Spatial Development Framework (SDF) guides and informs land development and management in the region. In other words, it gives spatial effect to multi-sectoral projects identified in the above mentioned IDP and assists the municipality in coordinating the implementation of the various sector plans. Therefore, the SDF cannot operate in isolation but is directly linked to the IDP to ensure consistency and harmony.

Three key aspects transpire from the SDF in relation to what is required in order to achieve its vision. These include the following:

- Improve living standards;
- Ensure health and safety;
- Strengthen local economic development

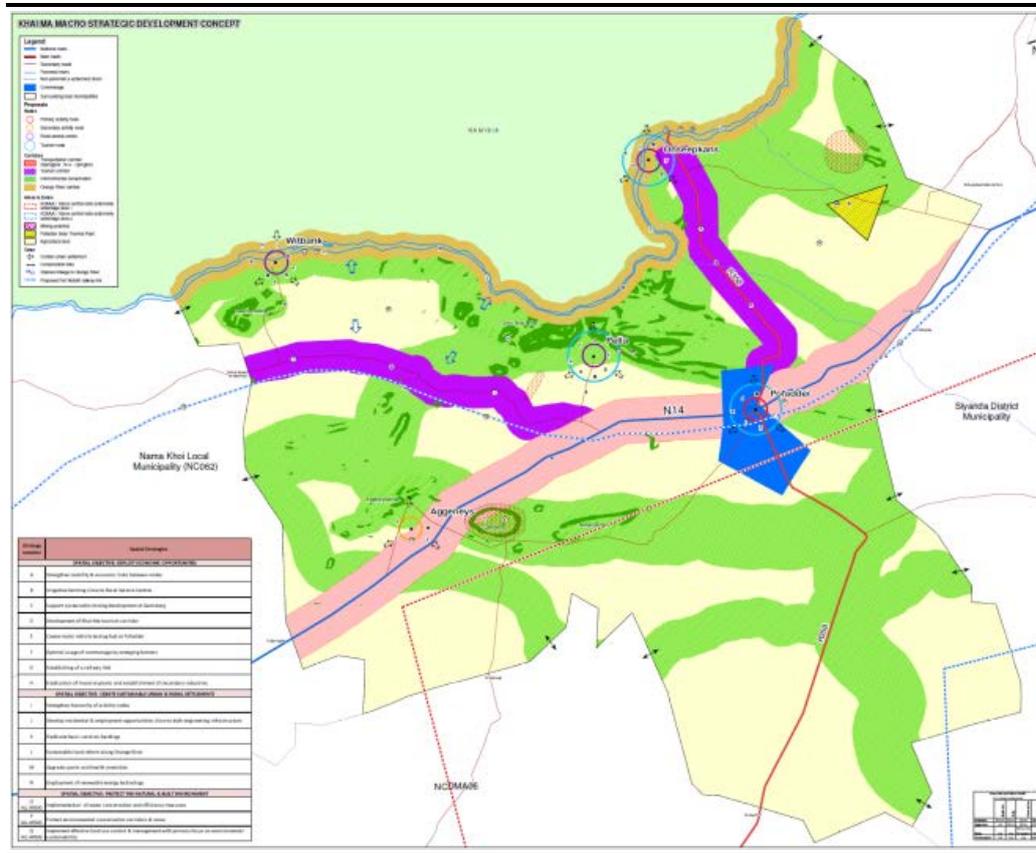
Similar to the provincial, district and local policies mentioned above, the mining, agricultural and tourism sectors are again highlighted as important sectors to drive future local economic growth in the area. In terms of developing the mining sector within the municipality, the SDF sets out the following guidelines for mining operations to adhere to:

- Mining will be allowed only after the necessary consents from the Department of Mineral Resources have been obtained.
- The outcome of an Environmental Impact Assessment is important when mining development is considered.
- Housing for mine workers should be accommodated within the nearest existing urban areas/towns where social and economic infrastructure exists. In the case of Gamsberg housing should be directed to Pofadder.
- The impacts of mining development should be mitigated in environmentally significant areas.
- The application for mining rights should be accompanied by a Social and Labour Plan as prescribed in terms of the Minerals and Petroleum Resources Development Act, (Act 28 of 2002).
- The provision of resorts or lodges on farms to provide for the housing needs of mine personnel should not be allowed.
- The commercial use of farms for ancillary uses to mining industry should not be allowed.

The Khai- Ma SDF also recognises the importance of Pella and its surroundings for potential tourism activities in the area and identifies two primary tourism corridors between Pofadder and Witbank (along the Klein Pella Road) and between Pofadder and Onseepkans (refer to *Figure 1.2* below). In general, the SDF places particular emphasis on the protection of tourism

assets and the development of tourism in areas north of the N14, along the Orange River and the mountainous areas relatively close to the Orange River.

**Figure 1.2** *Khâi-Ma Local Municipality Spatial Development Framework Composite Map (2010)*



Source: KMLM, 2010

With regard to the future efforts in the municipality aimed at developing towns, the focus of the SDF is to encourage growth in Pofadder to the degree possible and restrict growth in other towns such as Aggeneys, where possible. *Table 1.5* expands on the rationale provided for this in the SDF. Note that this goal was also set before the degree of solar potential in the area was realised particularly nearby Aggeneys. One could argue that the solar energy projects expected near Aggeneys should help to diversify its economic base and somewhat dilute argument for restricting growth in Aggeneys.

**Table 1.5** *Nodal classification in the Khâi-Ma Local Municipality Spatial Development Framework 2010*

Classification	Characteristics	Interventions
<b>Primary activity node*</b>		
Pofadder	<ul style="list-style-type: none"> <li>• Main economic centre</li> <li>• Provide a variety of services and functions</li> <li>• Accommodate a variety of developments and social support infrastructure</li> <li>• Strategic located on the main N14</li> <li>• Largest population size</li> </ul>	<ul style="list-style-type: none"> <li>• Facilitate the development of Pofadder into an economic growth centre</li> <li>• Attract private and public investments</li> <li>• Promote urban renewal strategies</li> <li>• Increase economic and social opportunities</li> <li>• Accommodate regional and sub-regional growth</li> <li>• Provide a full range of services and goods</li> </ul>
<b>Secondary activity node*</b>		
Aggeneys	<ul style="list-style-type: none"> <li>• Mining town with limited economic opportunities</li> <li>• Provides housing for mine workers</li> <li>• Limited diversity in economy</li> <li>• Mainly serves local population</li> </ul>	<ul style="list-style-type: none"> <li>• Restrict further expansion outside the existing urban edge</li> <li>• Channel further growth and development to Pofadder</li> </ul>
<b>Rural service centres*</b>		
Onseepkans, Witbank and Pella	<ul style="list-style-type: none"> <li>• Little economic base</li> <li>• Provide basic services and goods</li> <li>• Isolated with poor road access</li> <li>• Crippled by a lack of engineering and social infrastructure services</li> <li>• Relatively small population</li> </ul>	<ul style="list-style-type: none"> <li>• Allow business development to exploit the historic significance of Pella</li> <li>• Provide facilities to tourists to compliment the border-post function of Onseepkans</li> <li>• Should not be viewed as focus areas for future growth</li> <li>• Restrict development within urban edge</li> <li>• Improve the status quo of these settlements through focused CRDP projects, improved road access, human resource development, and upgrade of engineering and social infrastructure to basic service level.</li> </ul>

Source: KMLM, 2010

Finally, the SDF recognises that mining activities could present a significant threat to local biodiversity in the area, particularly with respect to the proposed development of an opencast mine at Gamsberg. As such, mining development in areas with sensitive biodiversity is earmarked as an area that should require specific policy intervention. With respect to this, the compilation of an Environmental Management Plan for mining and agricultural activities in the municipality is recommended in order to protect environmental conservation corridors and zones.

#### *Alignment with Regional Planning Policies*

Given the above, it is clear that the Project achieves in-principle compatibility with the key thrusts of planning documents for the province, district and local municipality. These documents also do, however, call for caution regarding the conservation status of the mining site in particular.

#### 1.4.6

#### *Succulent Karoo Ecosystem Programme (SKEP)*

The Succulent Karoo Ecosystem Programme (SKEP) is the result of a planning process, combined with a rigorous scientific process with broad land-user participation to generate broad agreement around an ultimate vision and set of conservation targets for the Succulent Karoo ([www.bgis.sanbi.org](http://www.bgis.sanbi.org)). The SKEP 20-year strategy is derived from a variety of stakeholder inputs, and consists of a comprehensive set of actions, that will achieve conservation targets by addressing constraints and maximizing opportunities that are most relevant for each sub-region.

The rich biodiversity of the Succulent Karoo is due to an extensive and complex array of habitat types derived from topographical and climatic diversity in the regions rugged mountains, semi-arid shrublands, and coastal dunes. The trademark feature of the Succulent Karoo is its exceptionally diverse and endemic-rich flora, especially succulents and bulbs. The 116,000 km<sup>2</sup> biome houses at least 6,356 plant species, 40% of which are endemic and 936 (17%) of which are Red Data Listed.

Based on the understanding of the distribution of biodiversity and transformation pressures in the Succulent Karoo, the conservation of the regions species and ecological processes are managed together with conservation targets for biodiversity features (vegetation types, river ecosystems, sand movement corridors, presence of Red Data and endemic species). The geographical priority areas have been identified within this biome. One of the priority areas is the Bushmanland Inselbergs, of which, the Gamsberg inselberg forms part of.

Furthermore, based on the Biodiversity Land Management Classification, the proposed Mine is located within a Critical Biodiversity Area 2 (CBA 2). A CBA 2 is considered to be an important area that is known to contain high levels of biodiversity. The land management objective of a CBA 2 is to “maintain near-natural landscapes with no or limited loss of biodiversity pattern and limited loss of ecosystem processes”. According to the Biodiversity Land Management Classification key, underground mining has been identified as a suitable activity for the region, with surface mining, dumping and dredging considered to be unsuitable activities. The Project area also appears to form part of the ecological support areas identified in the area. The land management objective for ecological support areas is to maintain near-natural landscapes with some loss of biodiversity pattern and limited loss of ecosystem processes.

#### 1.4.7

#### *Mining Charter*

The Mining Charter was established to redress historical and social inequalities through facilitating the introduction of historically disadvantaged South Africans (HDSA) into the mining sector. The Mining Charter aims to

achieve the following objective:

- Promote equitable access to the nation's mineral resources to all the people of South Africa;
- Substantially and meaningfully expand opportunities for HDSA's including women, to enter the mining and minerals industry and to benefit from the exploitation of the nation's mineral resources;
- Utilize the existing skills base for the empowerment HDSA's;
- Expand the skills base of HDSAs in order to serve the community;
- Promote employment and advance the social and economic welfare of mining community and the major sending areas; and
- Promote beneficiation of South Africa's mineral commodities.

The Mining Charter introduced nine (9) elements (incorporating relevant legislation) aimed at redressing past racially discriminatory practices that excluded HDSA's from actively participating in the ownership and management of the mining sector. These elements are as follows:

- Human Resource Development Employment Equity;
- Migrant Labour;
- Mine Community Development;
- Housing and Living Conditions;
- Procurement;
- Ownership and Joint Venture;
- Beneficiation; and
- Reporting.

Specific requirements and standards are set in terms of the Mining Charter that will need to be met. The requirements outlined in terms of the Mining Charter will play an influential role with the project description and infrastructure requirements.

#### **1.4.8 Namakwa District Biodiversity Plans (2008) (NDBP)**

*The NDBP is "intended to help guide land-use planning, environmental assessments and authorisations; and, natural resource management in order to promote development which occurs in a sustainable manner. It has been developed to further the awareness of the unique biodiversity in the area, the value this biodiversity represents to people as well as the management mechanisms that can ensure its protection and sustainable utilisation".*

The biodiversity guidelines and landuse planning suggestions contained in the NDBP is also included into the Spatial Development Frameworks and Integrated Development Plans for the six Local Municipalities.

The proposed Project is located within the Khai Ma Local Municipality (KMLM), which lies to the East of the Richtersveld and contains virtually the entire extent of the Bushmanland Inselberg priority area - one of the nine zones identified through the SKEP process as important conservation areas in the Succulent Karoo (NDBP, 2008). Species endemic to the Gamsberg inselberg (i.e. *Conophyturatum*, *Conophytum limpidum* and an as yet unnamed *Trachyandra* species) are considered to be of significant importance.

#### 1.4.9 *Applicable Guidelines*

##### *Need and desirability guidelines*

The 'Need and Desirability' guidelines (2010) have been developed by the Western Cape Department of Environmental Affairs and Development Planning (DEA&DP) to guide the appropriate selection of projects (i.e. the need and desirability of a development) through assessing them against applicable regional and local policy/planning criteria. This includes sustainable development vision, goals and objectives formulated in, and the desired spatial form and pattern of land use reflected in the selected area's IDP's, SDF's and EMF's. This serves to provide an indication as to whether or not the proposed land-use/activity is the best practicable use for the land or the most sustainable use for the site.

A set of questions have been set out in the guidelines to prompt responses, which provide information as to the suitability of alternatives for the site, including the option of not proceeding with the development. Responses to these questions are listed in *Table 1.6* and *Table 1.7* below.

**Table 1.6 Responses to the 'Needs and Desirability Guidelines'**

NEED (TIMING) Question	RESPONSE
<p>1. Is the land use (associated with the activity being applied for) considered within the timeframe intended by the existing approved SDF agreed to by the relevant environmental authority i.e. is the proposed development in line with the projects and programmes identified as priorities within the credible IDP?</p>	<p>In terms of the New Growth Path (NGP) being pursued in terms of the NCPGDS, as well as the other district and local policies described in Sections 1.4.1 to 1.4.5, mining is identified as one of the main economic sectors, which is expected to provide potential feasible job opportunities over the specified time horizon (2020). Furthermore, the Gamsberg project in particular is identified as being a priority project for the local municipality and one that could be a potentially significant growth point for the area. Other economic sectors that are expected to provide significant job creation include agriculture and tourism.</p> <p>Lastly, the properties being used for the proposed mine fall within the existing Gamsberg mining right area (i.e. Bloemhoek 61 Portion 1; Gams 60 Portion 1; Aroams 57 RE; Gams 60 Portion 4). As such, all areas are zoned as mining land-use.</p> <p>As described in Sections 1.4.1 to 1.4.5 above, the Project is in line with the policies set out in terms IDP's and SDF's at a local and district level.</p>
<p>2. Should development, or if applicable, expansion of the town/ area concerned in terms of this land use (associated with the activity being applied for) occur at this point in time?</p>	<p>The current global mine production of zinc slightly exceeds the current global usage of zinc. Despite this, the growing global demand for zinc is expected to exceed current global production by approximately by the year 2015. As such, the proposed mine intends to meet the growing demand, at the time of commencement of operation of the mine (i.e. 2015). The viability of the proposed Project is closely linked to timing of, and increasing, global demand trends.</p>
<p>3. Does the community/ area need the activity and the associated land use concerned (is it a societal priority)? This refers to the strategic as well as local level (e.g. development is a national priority but within specific local context it could be inappropriate).</p>	<p>As with the rest of the country, unemployment is a major challenge in the area. The proposed project would result in an increase in temporary and permanent employment opportunities during the construction and operational phases of the project. Such employment opportunities will be created for a mixture of highly skilled engineers and technicians, semi-skilled labour and unskilled labour. It will also create employment opportunities associated with support services including maintenance, transport and inspection services, which could provide opportunities for local small businesses with suitable expertise.</p> <p>Despite this, the proposed project is likely to result in a suite of impacts that would need to be assessed and mitigated in further detail during the ESIA (Chapter 9 and 10). Of particular concern is the sensitive nature of biodiversity found within the Gamsberg inselberg. This will need to be probably considered during the ESIA process.</p>

NEED (TIMING) Question	RESPONSE
4. Are there necessary services with appropriate capacity currently available (at the time of application), or must additional capacity be created to cater for the development?	<p>The cost and availability of suitable transport systems remains one of the major factors inhibiting the further development of the mining industry in the Northern Cape. It affects both the expansion of the iron and manganese mines as well as the development of new mines, both large and small. Various alternatives will be looked at for transporting the zinc concentrate to the Port where it will be exported. These different options will be sufficiently assessed during the ESIA process.</p> <p>Additional capacity is also required from a water, power and waste perspective. Black Mountain will be constructing new bulk infrastructure to accommodate such needs. This will include the construction of new reservoirs, sub-stations, electricity distribution lines, waste disposal sites, sewerage plants etc. Despite the added footprint such bulk infrastructure will have on the environment, these services will help supplement the existing lack of basic services that is a major problem in the municipality.</p>
5. Is this development provided for in the infrastructure planning of the municipality, and if not, what will the implication be on the infrastructure planning of the municipality (priority and placements of services)?	As described in Sections 2.2.1 to 2.2.5 above, the proposed Project is in line with the policies set out in terms IDP's and SDF's at a local and district level.
6. Is this project part of a national programme to address an issue of national concern or importance?	On a macro scale, all national and provincial directives acknowledge promote that sustainable local economic development be pursued as a pathway to creating job opportunities and poverty alleviation, while acknowledging that sensitive environments must be managed accordingly.

**Table 1.7** *Responses to the 'Desirability' aspect of the guidelines*

DESIRABILITY (PLACING) Question	RESPONSE
1. Is the development the best practicable environmental option (BPEO) for this land/site?	It is clear that the Project achieves in-principle compatibility with the key thrusts of planning documents for the province, district and local municipality. These documents also do, however, call for caution regarding the conservation status of the Project site in particular.
2. Would the approval of this application compromise the integrity of the existing approved and credible Municipal IDP and SDF as agreed to by the relevant authorities?	The project is compatible with local planning. It is also largely compatible and well recognised as mining area in IDPs and SDFs though also important for conservation.

DESIRABILITY (PLACING) Question	RESPONSE
3. Would the approval of this application compromise the integrity of the existing environmental management priorities for the area (e.g. as defined in EMFs), and if so, can it be justified from in terms of sustainability considerations?	<p>As discussed above, the Gamsberg inselberg forms part of the Bushmanland Inselbergs, one of nine zones identified through the SKEP process as important conservation areas in the Succulent Karoo (NDBP, 2008). Furthermore, based on the Biodiversity Land Management Classification, the proposed Gamsberg mine is located within a Critical Biodiversity Area 2 (CBA 2). According to this Classification, underground mining has been identified as a suitable activity for the region, with surface mining, dumping and dredging considered to be unsuitable activities. The Project area also appears to form part of the ecological support areas identified in the area.</p> <p>All of these considerations will need to be taken into account during the ESIA process. This must include assessing the extent to which such mining activities could compromise the viability of populations that are identified to be critical or irreplaceable.</p>
4. Do location factors favour this land use (associated with the activity applied for) at this place?	The area to be mined is entirely dependent on the location of the ore body, which is found extensively within the Gamsberg inselberg.
5. How will the activity or the land use associated with the activity applied for, impact on sensitive natural and cultural areas (built and rural/ natural environment)?	The impacts to biodiversity and subsequent mitigation measures are included. Although there is the potential for paleontological and archaeological resources to be disturbed during excavations on and off-site, this potential is considered to be low, as there is generally quite a low incidence of Stone Age sites on the Gamsberg itself. Excavations on this part of the site could also potentially reveal new heritage resources with proper monitoring of operations.
6. How will the development impact on people's health and wellbeing (e.g. in terms of noise, odours, visual character and sense of place, etc.)?	The purpose of the EIA process is to identify, assess and mitigate impacts associated with the proposed development on the socio-economic and biophysical environment. All potential impacts associated with the proposed developments impact on people's health and wellbeing are presented below for the construction, operational and decommissioning phases of the proposed project.
7. Will the proposed activity or the land use associated with the activity applied for, result in unacceptable opportunity costs?	The Gamsberg project could have significant opportunity costs in relation to its impact on local biodiversity and the direct/indirect influence this could have on the tourism industry within the area. This is specifically related to the sensitivity of the biodiversity found within the Gamsberg inselberg. Despite this, the fact that the land is already zoned for mining use would indicate that it is unlikely to be used or earmarked for tourism purposes in the future. Furthermore, the development could provide additional opportunities for the development of conservation/eco-ventures through the mandated offsetting process.

DESIRABILITY (PLACING) Question	RESPONSE
8. Will the proposed land use result in unacceptable cumulative impacts?	An assessment of cumulative impacts will be undertaken as part of the ESIA process.

## 1.5

### *POLICY/GUIDELINES TO BIODIVERSITY OFFSETTING*

The Project site has been identified to be located within an ecologically sensitive area, which includes irreplaceable habitats. Limited options are available to reduce the anticipated impacts that the proposed development will have on such biodiversity and significant residual impacts are expected. As such, options for development of a biodiversity offset are thus being considered. Biodiversity offsetting is a relatively new concept in South Africa. This section provides a synopsis of procedures that apply to where biodiversity offsets are applicable (See *Section 1.5.2*).

Various South African guidelines have been reviewed in order to identify cases in which biodiversity offsets are applicable. Important guidelines reviewed include:

- Western Cape Biodiversity Offset Guidelines (DEA&DP, 2011);
- KwaZulu Natal Biodiversity Offset Guidelines (Ezemvelo KZN Wildlife, 2009) Final Draft;
- South African Mining and Biodiversity Guidelines (2012); and
- National Biodiversity Framework (2009).

The Western Cape Guidelines (2011) provide the greatest clarity on situations where biodiversity offsets can be applied; however the Draft KwaZulu Natal Guidelines (2009) essentially follow the same set of criteria.

#### 1.5.1

##### *Status of Biodiversity Offset Guidelines/Policies in South Africa*

The Western Cape Biodiversity Offset Guidelines were initially released as a draft in 2007. This draft is still available online but was later released as an Information Document under the logo of the Department of Environmental Affairs and Development Planning (DEA&DP) in 2011. The KZN Biodiversity Offset Guidelines currently remain in Draft format.

The National Biodiversity Framework, which forms a supporting document to the National Environmental Management, Biodiversity Act (NEMBA; Act 10 of 2004) makes reference to a (national) Policy Framework for Biodiversity Offsets with a 2012 deadline for release. This biodiversity offset framework is currently being compiled and is expected to be released during 2013 <sup>(2)</sup> <sup>(3)</sup>.

(2) Personal communication with Marie Parramon-Gurney, Endangered Wildlife Trust, January 2013.

(3) SAMBF (2012) Mining and Biodiversity Guidelines (pg. 61)

ERM have to date not been able to gain access to draft versions of this document.

### 1.5.2 *Overview of National Offsetting Guidelines/Policies*

Sustainable development is enshrined in South Africa’s Constitution and laws. The need to sustain biodiversity is directly or indirectly referred to in a number of Acts, not least the NEMBA, which is fundamental to the notion of sustainable development. The act requires that impacts on biodiversity and ecological integrity are avoided, and if they cannot altogether be avoided, are minimised and remedied.

All guidelines emphasise that biodiversity offsets represent a last resort and are an option to be pursued only when significant residual impacts on biodiversity remain after all options within the mitigation hierarchy (i.e. avoidance, minimise and rehabilitation options) have been thoroughly explored. <sup>(4)</sup> <sup>(5)</sup> <sup>(6)</sup>

Biodiversity offsets are applicable where the residual impacts on biodiversity are assessed by a competent specialist to be moderate to high, but are not relevant to situations with a low residual impact. The biodiversity loss cannot be offset where the residual impact is assessed as very high. <sup>(7)</sup>

The NEMBA has created the requirement for the Critical Biodiversity Areas (CBAs) to be recognised through systematic biodiversity planning strategies across South Africa. Numerous initiatives have been launched such the Succulent Karroo Environmental Programme (SKEP), the Cape Action for People and the Environment (C.A.P.E.) and the Gauteng Conservation Plan (CPLAN) to classify the current ecological value of land in their respective areas. These initiatives follow a consistent classification system which incorporates categories presented in *Table 1.8*.

**Table 1.8** *Ecological land classifications used for bioregional planning initiatives in South Africa*

<b>Biodiversity Criteria</b>	<b>Land Management Objectives</b>
Protected area	Maintain in a natural state with limited or no biodiversity loss
Irreplaceable area	Maintain in a natural state with no further biodiversity loss
Important area	Maintain near-natural landscapes with no or limited loss of biodiversity pattern and limited loss of ecosystem processes
Ecological support area	Maintain near-natural landscapes with some loss of biodiversity pattern and limited loss of ecosystem processes
Other natural area	Functional landscapes: manage land to maintain basic ecosystem processes

(4) Western Cape Guidelines (2011): section 4.1.2 Residual Impacts (pg. 42)

(5) Draft KZN Guidelines (2009): Section 2.2 What are biodiversity offsets? (pg. 6)

(6) SAMBF (2012): Section 2.4 Proactive planning, the mitigation hierarchy (pg. 26)

(7) Western Cape Guidelines (2011): Section 4.2 When would biodiversity offsets not be considered? (pg. 44)

Biodiversity Criteria	Land Management Objectives
Croplands with limited or no natural remaining	Sustainable land management
Urban areas and roads with no natural remaining	Sustainable land management
Limited or no natural remaining	Sustainable land management

Various developments, which include mining operations, are not permitted within protected areas or within a recognised buffer of protected areas <sup>(8)</sup>. Buffers around protected areas differ between provinces, for example Gauteng does not recognise buffers around protected areas. <sup>(9)</sup>

Mining activities within irreplaceable areas lead to very high impacts. If these impacts cannot be reduced through application of a mitigation hierarchy and the residual impact to biodiversity is very high, then a biodiversity offset is not applicable. The biodiversity impacts thus become a fatal flaw to the development. <sup>(10)</sup>

Only under exceptional circumstances can very high biodiversity impacts be offset where a proposed development may have substantial benefits to society as a whole. <sup>(11)</sup> This document does not provide an assessment of those exceptional circumstances which are outside of the realm of biodiversity assessments.

Various approaches to selecting offsets are discussed but no single method is highlighted as the preferred approach. A “Like-for-Like or better” approach is recognised whereby a similar habitat is protected through a biodiversity offset. A trading-up approach is also recognised whereby an offset targets an ecosystem of greater value or priority to biodiversity conservation from the one being impacted.

The Western Cape Guidelines (2011) recommend that offsets are established within Critical Biodiversity Areas which would typically have an Irreplaceable habitat classification, and thus recommends a trading-up approach. These same guidelines also recommend that offsets should be handed over to the State and thus become Protected Areas. The SAMBF (2012) guidelines state that biodiversity offset areas must be formally protected or secured and effectively managed and recommend that offsets contribute to protected areas expansion programmes.<sup>(12)</sup> Appending offsets to existing protected areas further supports the concept of trading-up biodiversity values. Expanding protected areas provides the most cost-effective solution for establishing viable biodiversity offsets as the management cost per unit area of land is reduced as the area is expanded. <sup>(13)</sup>

(8) SAMBF (2012) Mining and Biodiversity Guidelines: Table 10 (pg. 89)

(9) SAMBF (2012) Mining and Biodiversity Guidelines: Table 10 (pg. 92)

(10) Western Cape Guidelines (2011): Box 9 Significance of residual negative impacts on biodiversity as a trigger for considering biodiversity offsets (pg. 41)

(11) Western Cape Guidelines (2011): Footnote (pg. 56)

(12) SAMBF (2012) Mining and Biodiversity Guidelines: Section 3.4.3 Mitigation, Biodiversity Offsets (pg. 62)

(13) Western Cape Guidelines (2011): Useful to note: costs of managing natural habitats (pg. 85)

Composite offsets were introduced to the Draft Western Cape Biodiversity Offset Guidelines (2007), whereby numerous smaller offsets are established to compensate for the residual impacts on one area that is developed. This concept has however been withheld from the 2011 on the Western Cape Guidelines (2011) released as an information document.

## 1.6 *INTERNATIONAL GUIDELINES*

### 1.6.1 *IFC Performance Indicators for Sustainability*

The International Finance Corporation (IFC) have developed a set of performance standards that are directed towards providing guidance on how to identify risks and impacts and measures to avoid, mitigate and manage risks and impacts. The performance indicators also promote stakeholder engagement at various stages of the project lifecycle. In order to determine the risk of impacts associated with a development activity, three categories have been developed to distinguish between projects of varying scales. The categories are as follows:

- Category A: Business activities with potential significant adverse environmental or social risks and/or impacts that is diverse, irreversible, or unprecedented.
- Category B: Business activities with potential limited adverse environmental or social risks and/or impacts that are few in number, generally site-specific, largely reversible, and readily addressed through mitigation measures.
- Category C: Business activities with minimal or no adverse environmental or social risks and/or impacts.

In the case of direct investments for the IFC (including project and corporate finance provided through financial intermediaries), the IFC requires that its clients apply the Performance Standards to manage associated environmental and social risks and impacts (IFC, 2012). The performance standards that developments are measured against are detailed in *Table 1.9* below.

*Table 1.9 Performance Indicators for Environmental and Social Sustainability*

Performance Standards	Objectives
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<b>Performance Standards</b>	<b>Objectives</b>
Performance Standard 1: Assessment and Management of Environmental and Social Risks and Impacts	<ul style="list-style-type: none"> <li>• To identify and assess environmental and social risks and impacts of the project.</li> <li>• To adopt a mitigation hierarchy to anticipate and avoid, or where avoidance is not possible, minimise, and where residual impacts remain, compensate/offset for risks and impacts to workers, affected communities, and the environment.</li> <li>• To promote improved environmental and social performance of clients through the effective use of management systems.</li> <li>• To ensure that grievances from Affected Communities and external communications from other stakeholders are responded to and managed appropriately.</li> <li>• To promote and provide means for adequate engagement with Affected Communities throughout the project cycle on issues that could potentially affect them and to ensure that relevant environmental and social information is disclosed and disseminated.</li> </ul>
Performance Standard 2: Labour and Working Conditions	<ul style="list-style-type: none"> <li>• To promote the fair treatment, non-discrimination and equal opportunity of workers.</li> <li>• To establish, maintain and improve the worker management relationship.</li> <li>• To promote compliance with national labour and employment laws.</li> <li>• To protect workers, including vulnerable categories of workers such as children, migrant workers, workers engaged by third parties, and workers in the clients supply chain.</li> <li>• To promote safe and healthy working conditions, and health of workers.</li> <li>• To avoid the use of forced labour.</li> </ul>
Performance Standard 3: Resource Efficiency and Pollution Prevention	<ul style="list-style-type: none"> <li>• To avoid or minimise adverse impacts on human health and the environment by avoiding or minimizing pollution from project activities.</li> <li>• To promote more sustainable use of resources, including energy and water.</li> <li>• To reduce project-related greenhouse gas emissions.</li> </ul>
Performance Standard 4: Community Health, Safety and Security	<ul style="list-style-type: none"> <li>• To anticipate and avoid adverse impacts on health and safety of the Affected Community during the project life from both routine and non-routine circumstances.</li> <li>• To ensure that the safeguarding of personnel and property is carried out in accordance with relevant human rights principles and in a manner that avoids or minimises risks to the Affected Communities.</li> </ul>

Performance Standards	Objectives
Performance Standard 5: Land Acquisition and Involuntary Resettlement	<ul style="list-style-type: none"> <li>• To avoid, and when avoidance is not possible, minimise displacement by exploring alternative project designs.</li> <li>• To avoid forced eviction.</li> <li>• To anticipate and avoid, or where avoidance is not possible, minimise adverse social and economic impacts from land acquisition or restrictions on land use by; <ul style="list-style-type: none"> <li>i. Providing compensation for loss of assets at replacement cost; and</li> <li>ii. Ensuring that resettlement activities are implemented with appropriate disclosure of information, consultation, and the informed participation of those affected.</li> </ul> </li> <li>• To improve, or restore, the livelihoods and standards of living of displaced persons.</li> <li>• To improve living conditions among physically displaced persons through the provision of adequate housing with security of tenure at resettlement sites.</li> </ul>
Performance Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources	<ul style="list-style-type: none"> <li>• To protect and conserve biodiversity.</li> <li>• To maintain the benefits from ecosystem services.</li> <li>• Promote the sustainable management of living natural resources through the adoption of practices that integrate conservation needs and development priorities.</li> <li>• To ensure that the development activity results in no net loss in natural biodiversity, and a net gain in critical biodiversity.</li> </ul>
Performance Standard 7: Indigenous Peoples	<ul style="list-style-type: none"> <li>• To ensure that the development process fosters full respect for the human rights, dignity, aspirations, culture, and natural resource-based livelihoods of Indigenous Peoples.</li> <li>• To anticipate and avoid adverse impacts of projects on communities of Indigenous Peoples, or when avoidance is not possible, to minimise and/or compensate for such impacts.</li> <li>• To promote sustainable development benefits and opportunities for Indigenous Peoples in a culturally appropriate manner.</li> <li>• To establish and maintain an on-going relationship based on Informed Consultation and Participation (ICP) with the Indigenous Peoples affected by a project through the projects life-cycle.</li> <li>• To respect and preserve the culture, knowledge and practices of Indigenous Peoples.</li> </ul>
Performance Standard 8: Cultural Heritage	<ul style="list-style-type: none"> <li>• To protect cultural heritage from the adverse impacts of project activities and support its preservation.</li> <li>• To promote the equitable sharing of benefits from the use of cultural heritage.</li> </ul>

## 1.6.2

### *IFC General Environmental, Health and Safety Guidelines*

The IFC General Environmental, Health, and Safety (EHS) Guidelines are technical reference documents with general and industry-specific examples of Good International Industry Practice (IFC, 2007). When one or more members of the World Bank Group are involved in a project, these EHS Guidelines are applied as required by their respective policies and standards. These General EHS Guidelines are designed to be used together with the relevant Industry Sector EHS Guidelines which provide guidance to users on EHS issues in specific industry sectors. For complex projects, use of multiple industry-sector guidelines may be necessary. The general EHS guidelines are organised into 4 broad categories, including Environmental, Occupational Health and Safety, Community Health and Safety and Construction and Decommissioning. Within each of these broad categories, a list of more specific guidelines has been developed.

Although the proposed Project may not be reliant on donor funding, it is the intention of the applicant to ensure that it is undertaken in a manner consistent with good international industry practice. In light of this, the EHS Guideline on Mining has been considered, with respect to the industry specific impacts and associated management measures, which are as follows:

*“Water use and quality, wastes, hazardous materials, landuse and biodiversity, air quality, noise and vibration, energy usage, visual impacts, occupational health and safety, community health and safety and mine closure and post-closure.”*

The suggested industry specific impacts, together with site related impacts will be investigated and assessed in further details during the ESIA phase.

## 1.7

### **CONSERVATION INTERNATIONAL**

Conservation International was established in 1987. The vision of the organisation is to establish a:

*...“a healthy, prosperous world in which societies are forever committed to caring for and valuing nature, for the long-term benefit of people and all life on Earth.”*

In order to achieve this vision, the following set of strategies have been adopted and implemented through Conservation International’s efforts across the globe (www.conservation.org, 2012):

- *“working to secure a stable global climate;*
- *understanding and protecting the sources and flows of fresh water;*
- *ensuring nature’s ability to provide food for human needs;*
- *minimizing environmental pressures on human health;*
- *valuing the role of nature in human cultures; and*
- *safeguarding the unknown and as-yet-undiscovered option values that nature provides.”*

With specific regard to biodiversity, Conservation International has identified 34 Global Hotspots which are said to contain approximately 90% of life on the planet (www.conservation.org, 2012). Two of the 34 Global Hotspots are present in South Africa. The Cape Floristic Kingdom forms one Global Hotspot, which extends along the west coast of South Africa. The Succulent Karoo forms the second Global Hotspot identified in South Africa. The Succulent Karoo extends along the west coast of South Africa, Africa, from south-western South Africa into southern Namibia. According to Conservation International, the Succulent Karoo is characterised as follows:

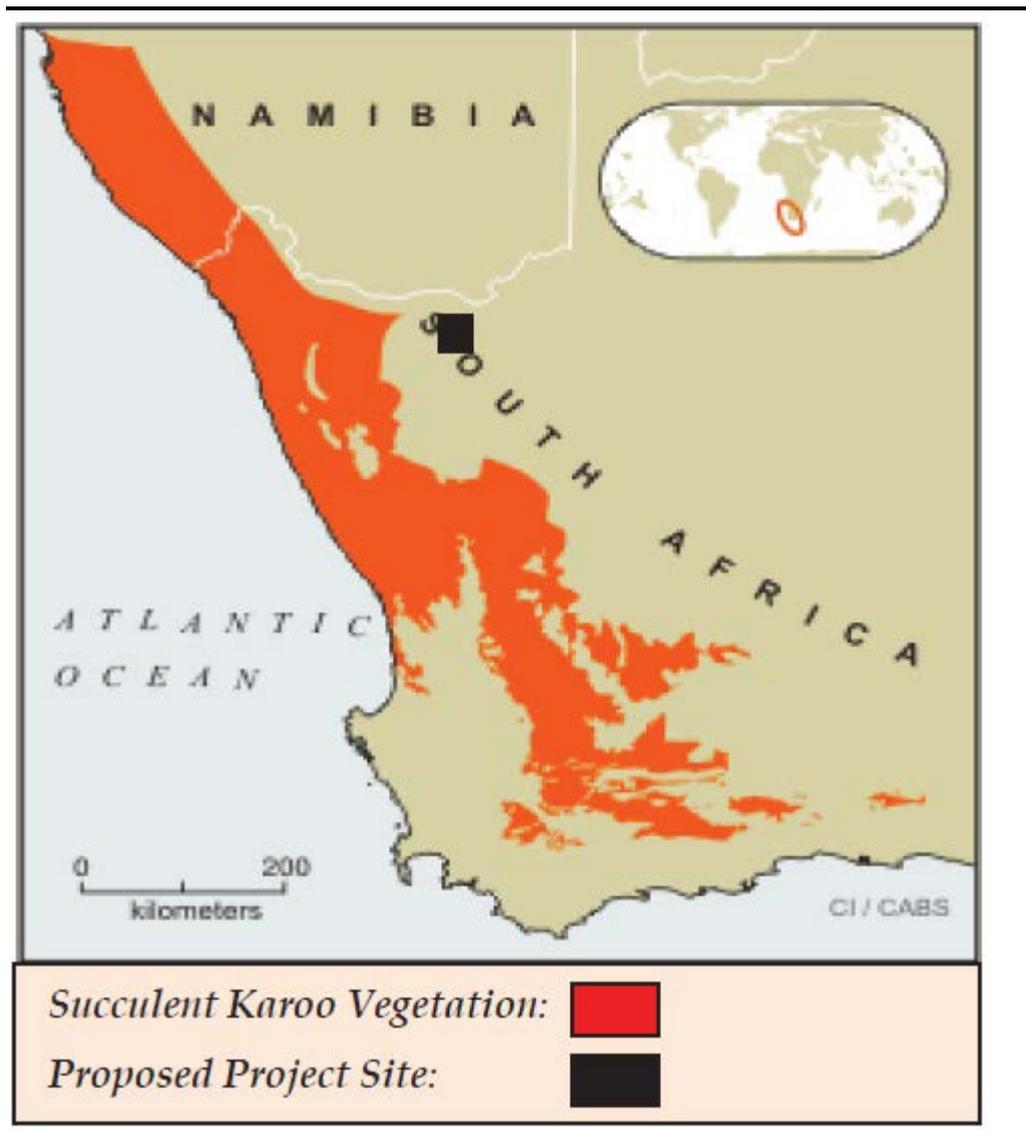
**Table 1.10** *Vital Signs of Succulent Karoo (www.conservation.org, 2012)*

Hotspot Original Extent (km <sup>2</sup> )	102,691
Hotspot Vegetation Remaining (km <sup>2</sup> )	29,780
Endemic Plant Species	2,439
Endemic Threatened Birds	0
Endemic Threatened Mammals	1
Endemic Threatened Amphibians	1
Extinct Species	1
Human Population Density (people/km <sup>2</sup> )	4
Area Protected (km <sup>2</sup> )	2,567
Area Protected (km <sup>2</sup> ) in Categories I-IV*	1,890

The proposed Mine and associated infrastructure is located adjacent to the area defined as Succulent Karoo Vegetation (according to Conservation International, 2012). The approximate regions that are characterised with Succulent Karoo vegetation is reflected in *Figure 1.3* below.

Although the Project area appears to be located outside of the Global Biodiversity Hotspot, previous investigations have confirmed that the proposed site is characterised with Succulent Karoo vegetation. Based on the importance of vegetation present on the inselberg, further detailed specialist investigations will be undertaken, with the findings presented in the ESIA Phase of the proposed project.

Figure 1.3 Location of Hotspot Relative to Project Area (sourced and adapted from [www.conservation.org](http://www.conservation.org), 2012)



## 1.8 VEDANTA'S CORPORATE STANDARDS

Vedanta Resources Plc. has developed a suite of environmental policies to guide the company's activities with respect to environmental management. The policies strive to align with IFC Performance Standards (2012), thus achieving international good practice. The following is a list of environmental polices developed and implemented on all developments associated with Vedanta's activities:

- Biodiversity Policy;
- Energy and Carbon Policy;
- HIV/ AID Policy;
- Health, Safety and Environment Policy;
- Human Rights Policy;
- Social Policy; and
- Water Management Policy.

A short summary of the key elements from each of the above categories is provided below.

### **1.8.1 Biodiversity Policy**

The protection and enhancement of biodiversity is considered to play an integral part in the realisation of Vedanta's commitment to sustainable development. To this end, Vedanta pledges to implement the following measures in order to promote this agenda:

- To prevent where possible, minimise and mitigate biodiversity risks throughout the business;
- To integrate biodiversity conservation needs with business needs throughout the project lifecycle (i.e. design, construction, operation, decommissioning, closure and rehabilitation);
- To comply with (and exceed where possible) local, regional and national biodiversity legislative requirements and applicable international conventions;
- To identify and assess biodiversity status and value before the start of a new project and monitor impacts over the project lifecycle;
- To consider impacts on ecosystem services; and
- To conserve and enhance knowledge and understanding with regard to threatened/rare and endemic species and high priority conservation areas.

### **1.8.2 Energy and Carbon Policy**

This policy acknowledges the global concern related to climate change and recognises that specific actions are required to reduce the scale of this problem. With respect to this, Vedanta proposes to take proactive steps to address such issues through adopting, amongst others, the following actions:

- Minimising greenhouse gas emissions through the adoption and maintenance of global best practices on carbon and energy management;
- Investing in clean energy technologies and maximising benefits through waste recovery;
- Fostering research and innovatory techniques to promote the optimal utilisation of resources and minimise energy consumption in all operations; and

- To work with staff, wider communities and other stakeholders to demonstrate Vedanta's commitment to greenhouse gas emission reduction principles and practices.

### 1.8.3 *HIV/AIDS Policy*

Vedanta's HIV/AIDS policy recognises the profound effect that HIV/AIDS plays on communities, families and employees, particularly in developing countries where they operate. The policy aims to protect people against such impacts through setting a commitment to promote education, treatment, prevention, and general employee health and wellness. Specific measures include:

- Implementing appropriate education and awareness programmes for all employees and contractors;
- Providing counselling and testing to prevent further infection and prompt early and proactive treatment; and
- The elimination of stigmas and discrimination through non-discriminatory policies and practices.

### 1.8.4 *Health, Safety and Environment Policy*

As part of this policy, Vedanta commits to the effective management of health, safety and environmental issues in the workplace. The aim of the policy is to prevent harm to people and minimise discharges to the environment. Vedanta strives to achieve this goal through implementing the following measures:

- Compliance with all applicable HSE regulations and statutory obligations;
- Providing a safe and healthy work environment for all employees and contractors;
- Reducing and/or avoiding environmental impacts to neighbours;
- Promoting a positive HSE culture within the organisation; and
- Implementing regular health surveillance and monitoring of employees.

### 1.8.5 *Human Rights Policy*

This policy acknowledges that the protection of human rights is of central importance to meeting Vedanta's social responsibilities as a direct and indirect employer. Specific measures Vedanta commits to in the realisation of this policy include the following:

- Compliance with applicable labour laws;
- Ensuring fair and reasonable compensation and remuneration structures;

- Zero tolerance for any form of forced, compulsory or child labour directly or through contracted labour;
- Treating all employees with respect and dignity;
- Preventing any discrimination based on employees or contractors race, religion, caste, gender, age, disability, HIV/AIDS status, and/or any other characteristics;
- Ensuring respect and preservation for employees culture and heritage; and
- Collaboration with government agencies to development a common understanding and agreement to protect human rights for any unforeseen situations.

### **1.8.6**      *Social Policy*

This policy seeks to promote the social wellbeing of employees, contractors and neighbouring communities. Social provisions that the policy specifically commits to include the following:

- Compliance with all legislative requirements in all jurisdictions in which it operates;
- The identification, management and mitigation of risks and adverse impacts on communities and the environment;
- Training and empowering local communities to deliver value to the organisation and society in a socially responsible manner;
- Respecting the social, economic, cultural and human rights of communities and preserving the culture and heritage of local communities; and
- Consulting and informing stakeholders in matters that affect them.

### **1.8.7**      *Water Management Policy*

This policy recognises the social, economic and environmental value of water and the increasing global concern of water scarcity. Various measures are outlined to ensure that this key resource is managed in a responsible manner. These include the following:

- Maintaining a water balance that minimises the amount of freshwater consumed;
- Compliance with applicable National, Provincial and Local regulations;

- Implementing a zero discharge philosophy where possible;
- Treating all waste water to international best practice standards before discharging to the environment;
- Determining baselines and developing on-going monitoring of water quality; and
- On-going communication with stakeholders regarding the progress and performance of water conservation and water management.

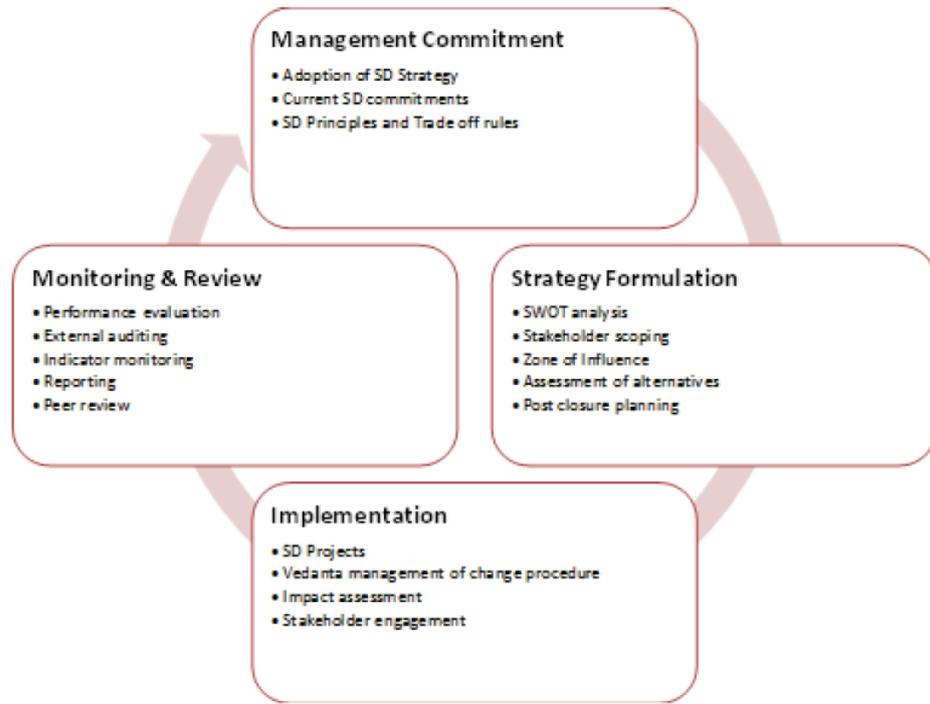
### 1.8.8 *Sustainable Development Strategy for the Gamsberg Zinc Mine*

Planning takes into consideration sustainable development as defined by Vedanta Corporate Sustainability Model. For such a critical project as this, the absence of a strategic framework could lead to a short-term reactive focus on the immediate problems without a clear and long-term strategic response to sustainable development imperatives. This project is planned according to a sustainable development strategy that aims to:

- Set decision-making principles for the Project (many actions deviate from their planned direction, and a basis for decision making is required to stream line these decisions).
- Provide a framework to which the permitting process can be aligned.
- Provide solutions to known risks.
- It will also consider and expand on relevant and appropriate components of existing and future sustainable development initiatives.
- Address non-government, government and community concerns regarding the Project.
- Ensure long-term sustainability beyond the life of the Project.

The Sustainable Development Strategy will achieve the above listed objectives by applying the following management framework.

Figure 1.4 Sustainable Development Strategy Framework



Design is conducted with closure in mind and applies the following principles derived from the Sustainable Development Strategy:

Figure 1.5 Decision Making Principles for Project Design

Vedanta Way	Sustainable Development Governance System	Key SDS Principles
Responsible Stewardship	Enhance our governance and stewardship to international standards	Net positive valued natural resource governance and stewardship is ensured beyond closure
Adding Value	Enhance the value the company can bring to each of their stakeholder groups	Net positive value is brought to the Gamsberg zone of influence
Strong Relationships	Fully engage with stakeholders to confirm issues of material importance to them	Stakeholders are fully engaged and all commitments made to them are honoured