

**SOCIAL IMPACT ASSESSMENT  
BA REPORT**

**PROPOSED REALIGNMENT OF THE MN73  
ROAD TO ACCOMMODATE SOLAR ENERGY  
FACILITIES NEAR PAULPUTS SUBSTATION,  
NORTHERN CAPE PROVINCE**

**AUGUST 2016**

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## **Executive Summary**

The Basic Assessment (BA) report for the realignment of a section of the MN73 road located approximately 45km north-east of Pofadder in the Northern Cape Province. Abengoa (Pty) Ltd is envisaging developing a concentrated solar power (CSP) facility and associated infrastructure approximately 900ha in extent on Portion 4 of the Farm Scuitklip 92. The CSP facility is known as the Paulputs CSP Project and received an environmental authorisation on 16 November 2016. Currently one of the provincial roads, MN73 traverse the footprint of the CSP facility. In terms of safety and security, it will not be possible to establish the CSP facility and also keep the alignment of the road where it is. The area immediately surrounding the Paulputs Substation and specifically Portion 4 of the Farm Scuitklip 92 has become a node for solar energy facility developments. Two other Concentrated Solar Power (CSP) facilities and one photovoltaic (PV) facility have already been constructed in this area. These are known as the Kaxu Solar One, Xina Solar One and Konkoonsies I PV plants respectively. Another PV facility (known as Konkoonsies II PV) is to be constructed during 2017. Therefore, to accommodate the Paulputs CSP facility and the other solar energy facilities near the Paulputs Substation, the Northern Cape Department of Roads and Public Works propose that a section of the MN73 be realigned. The section that will be affected is ~2km in length and the new road will be ~4.7km long. That will add approximately 2.7km to the current distance.

The Social Impact Assessment (SIA) was undertaken by Pamela Sidambe of Savannah Environmental. The purpose of the report is to assess the potential social impacts associated with the proposed realignment of the MN73 road and to recommend ways to reduce/avoid the negative social impacts. At the same time enhance the positive social impacts associated with the proposed development. This report contains the findings of the social impact assessment for the BA process for the proposed project.

## **Legislation and Guidelines**

The review of the relevant planning and policy documents was undertaken as a part of the SIA process. The key documents reviewed included:

### National Policies:

- » The Constitution Act 108 of 1996
- » National Environmental Management Act 107 of 1998 (NEMA)
- » National Development Plan 2030

### Provincial Policies:

- » Northern Cape Provincial Development and Resource Management Plan / Provincial Spatial Development Framework (PSDF) (2012)
- » Northern Cape Provincial Growth and Development Strategy (NCPGDS) (2011)
- » Northern Cape Provincial Local Economic Development Strategy (LED) (2009)

### Local and District Policies:

- » Namakwa District Municipality Environmental Management Framework (EMF) and Strategic Environmental Management Plan (SEMP) (2011)
- » Namakwa District Municipality Integrated Development Plan (2016-2017)
- » Namakwa District Municipality Local Economic Development Strategy (LED) (2009)
- » Khai-Ma Local Municipality Integrated Development Plan (IDP) (2012-2017) (Review 2015-2016)

### **Summary of the Socio-Economic Profile of the study area**

The socio-economic profile provides an overview of the study area. The following is a summary of the key baseline findings as a result of the study conducted on the Northern Cape Province (NCP), Namakwa District Municipality (NDM) and the Khai-Ma Local Municipality (KMLM). In summary, the area was found to have the following general characteristics:

#### ***Regional Context:***

- » The vast and arid Northern Cape is the largest Province in South Africa and covers approximately 375 899km<sup>2</sup>, which is 30.5% of South Africa's total area;
- » Despite occupying approximately a third of South Africa's land, the Northern Cape has the smallest population, with just over a million people (1 145 861). The Province's population constitutes approximately 2.2% of South Africa's total population;
- » Half of the population in the Province speaks Afrikaans (53.8%) and 33.1% speak Setswana and the balance is spread between isiXhosa and English;
- » The beauty about the Northern Cape is its warmth, hence the area has been identified to have the highest potential for solar renewable energy generation; and
- » Renewable energy generation comes with economic benefits to the local community and to the nation at wide. Therefore, any project that supports this sector of development is viewed as essential.

#### ***District Context:***

- » Namakwa District Municipality is one of the five districts in the Northern Cape, with six local municipalities;
- » The municipality is bordered by the Atlantic Ocean to the west and the Gariep river to the north;
- » It is one of the largest districts in South Africa, geographically it occupies approximately 126 747km<sup>2</sup>;
- » The district has dispersed population density;
- » Poverty is wide spread in the district; and
- » The focus of the district is tourism, agriculture and mining.

**Local Context:**

- » The Khai-Ma Local Municipality is one of the municipalities in Namakwa and lies in its central region;
- » The road realignment project will take place in ward 1 of the local municipality in the town of Pofadder;
- » The IDP of KMLM indicates that there is potential for eco-tourism in the area;
- » Gariiep river and the flowering scene in Namaqualand attracts tourists to the area;
- » The local municipality is faced with high unemployment, at 22.1%;
- » The majority of the population have basic education, 43.1% have some primary education, 34.4% some secondary education, 9.8% completed secondary school education and 1.2% have attained higher education qualifications;
- » The socio-economic conditions of the municipal area are poor. Approximately 56% of the municipal population earns less than R38 400.00 per annum (or less than R3200.00 per month) consequently receiving payment for municipal services can be challenging. This in turn can have a negative effect on the sustainability of infrastructure and the delivery of services overall; and
- » Generally, the population can be regarded as having a high dependency ratio; with 7.39% of the population over the age of 65 and 25% under 15 years.

**Social Impact Assessment**

**Table 1:** Summary of social impacts during construction phase

<b>CONSTRUCTION PHASE</b>		
<b>Impact</b>	<b>Significance Without Mitigation/ enhancement</b>	<b>Significance With Mitigation/ enhancement</b>
<b>Positive Impacts</b>		
<i>Direct employment and skills development</i>	Low (6)	Low (9)
<i>Economic multiplier effects</i>	Low (12)	Low (18)
<b>Negative Impacts</b>		
<i>Influx of economic seekers</i>	Low (15)	Low (12)
<i>Nuisance impacts (Noise, dust, wear and tear on roads)</i>	Low (18)	Low (12)
<i>Safety and security risks</i>	Low (18)	Low (12)
<i>Traffic impacts</i>	Low (18)	Low (10)

**Table 2:** Summary of social impacts during operation phase

<b>OPERATION PHASE</b>
------------------------

<b>Impact</b>	<b>Significance Without Mitigation/ Enhancement</b>	<b>Significance With Mitigation/ Enhancement</b>
<b>Positive Impact</b>		
<i>Reduced safety hazards and increased benefits for road users and economic opportunities</i>	Medium (36)	medium (48)

### **Key findings**

Construction phases are traditionally associated with social impacts. Many of the social impacts are unavoidable and will take place; therefore, the management of social impacts is more important. Negative and positive social impacts have been identified. The assessment of the key issues indicated that there are no negative impacts that can be classified as fatal flaws. Positive impacts can be enhanced by implementing appropriate enhancement measures and careful planning. Based on the social impact assessment, the following general conclusions and findings can be made:

- » The potential negative social impacts associated with the construction phase are typical of construction related projects and not just focussed on the construction of realignment of the MN73 (these relate to influx of non-local workforce and jobseekers, intrusion and disturbance impacts, noise and dust, wear and tear on roads and safety and security risks) and could be reduced with the implementation of the mitigation measures proposed;
- » The development will introduce a small number of employment opportunities during the construction phase (temporary employment);
- » The proposed project could assist the local economy in creating entrepreneurial growth and opportunities, especially if local business is involved in the provision of general material, goods and services during the construction phase; and
- » The proposed realignment will also facilitate the development of the Paulputs CSP facility for improved electricity capacity in the Northern Cape at the same time providing a gateway for greater economic opportunities nationally.

### **Recommendations**

The following recommendations are made on the basis of the Social Impact Assessment and a thorough review of the concerns and suggestions raised by stakeholders and interested and affected parties during the stakeholder engagement process. The proposed mitigation measures should be implemented to limit the negative impacts and enhance the positive impacts. Based on the social assessment, the following recommendations are made:

- » Implement mitigation measures to reduce and avoid negative impacts;

- » If feasible, the appointment of a community liaison officer to assist with the management of social impacts and to deal with community issues.
- » In terms of employment related impacts, it is important to reserve the low-skilled and semi-skilled job opportunities for the local people to avoid provoking discontent and putting pressure on basic services;
- » Local procurement of services and equipment where possible in order to enhance the multiplier effect;
- » Involve the community in the process as far as possible (encourage co-operative decision making and partnerships with local entrepreneurs);
- » Repair any parts of the road that will be affected by movement of high traffic;
- » Employ mitigation measures to minimise the dust pollution as sheep cannot eat grass with dust on; and
- » Safety and security risks should be taken into account during the planning/construction phase of the proposed project to reduce the risk of crime in the area.

### ***Overall Conclusion***

The road realignment project is very important if the Paulputs CSP facility is to be developed. The CSP facility is essential as it will increase the economic benefits in the area as well as boost the national economy. However, if the road is not realigned, the community is likely to miss the benefits that could possibly accumulate due to better electricity generation. It is critical to ensure safety of people prior to development of the project, therefore without the realignment the project may not proceed. Therefore the road has to be realigned to reduce the risks that are associated with the CSP facility. The key stakeholders indicated a positive response to the proposed project as it is envisaged that it will generate positive impacts long-term. In conclusion, from a social perspective the proposed realignment can go ahead subject to the implementation of the recommended mitigation measures contained in this report as the realignment is unlikely to result in permanent damaging social impacts.

## SPECIALIST REPORT CHECKLIST

<b>NEMA REGULATION GNR 982, SECTION 19 REQUIREMENTS FOR THE CONTENT OF BASIC ASSESSMENT REPORTS AS PER APPENDIX 6</b>	<b>CROSS REFERENCE IN THIS REPORT (refer to the following parts in the report)</b>
(a) the details of- (i) the specialist who prepared the report (ii) Expertise of the specialist and CV	Section 1.3 Appendix C
(b) Declaration by the specialist	Appendix C
(c) Indication of scope and purpose of report	Section 1.2
(d) Date and season of site investigation & relevance of season to assessment outcome.	Section 2.2
(e) Description of methodology adopted in preparing the report	Section 2
(f) Specific identified sensitivity of the site related to the activity and its associated structures and infrastructure	None
(g) identification of any areas to be avoided, including buffers	None
(h) map superimposing the activity including associated structures and infrastructure on the environmental sensitivities of the site including buffers. (i) A description of any assumptions made and any uncertainties or gaps in knowledge.	Section 2.5
(j) A description of findings and potential implications of such findings on the impact of the proposed activity	Section 6
(k) Mitigation measures for inclusion in the EMPr	Section 5 to 6
(l) Any conditions for inclusion in the environmental authorisation	Section 5.1.6
(m) Any monitoring requirements for inclusion in the EMPr or environmental authorisation	Appendix A
(n) A reasoned opinion (i) whether proposed activity or portions thereof should be authorised (ii) if the opinion is that the proposed activity or portions thereof should be authorised, any avoidance, management and mitigation measures that should be included in the EMPr, and where applicable, the closure plan;	Section 6 – recommendations and conclusions Appendix A
(o) A description of any consultation process undertaken	Appendix B
(p) Summary of any comments received during the consultation process	Appendix B

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## List of Abbreviations

CNA	Community Needs Analysis
CSP	Concentrated Solar Power
DEA	Department of Environmental Affairs
DGDS	District Growth and Development Strategy
DM	District Municipality
EAP	Economically Active Population
ED	Enterprise Development
EIA	Environmental Impact Assessment
EMF	Environmental management Framework
EMPr	Environmental Management Programme
EMZ	Environmental Management Zone
EPC	Engineering, Procurement and Construction
HD	Historically Disadvantaged
IDP	Integrated Development Plan
IPP	Independent Power Producer
KMLM	Khai-Ma Local Municipality
KPA	Key Performance Area
kV	Kilovolts
LED	Local Economic Development
LM	Local Municipality
MW	Megawatt
NDM	Namakwa District Municipality
NEMA	National Environmental Management Act
NSSD	National Strategy for Sustainable Development
PV	Photovoltaic
PSDF	Provincial Spatial Development Framework
PGDS	Provincial Growth and Development Strategy
SED	Socio-Economic Development
SEMP	Strategic Environmental Management Plan
SDF	Spatial Development Framework
SIA	Social Impact Assessment
SIPs	Strategic Infrastructure Projects

## **1. Introduction**

Savannah Environmental (Pty) Ltd has been appointed to undertake a Basic Assessment Report (BAR) for the realignment of a section of the MN73 road which is off the N14. As part of the BAR process, a Social Impact Assessment (SIA) had to be carried out by Pamela Sidambe of Savannah Environmental. The road to be realigned falls within ward 1 of the Khai-Ma Local Municipality (KMLM) in the Namakwa District Municipality (NDM).

The road proposed for realignment, currently traverses the footprint of the Concentrated Solar Power (CSP) tower facility and associated infrastructure. The purpose of repositioning of the road is to accommodate the Paulputs CSP facility situated on Portion 4 of the farm Scuitklip 92, approximately 45km north-east of Pofadder in the Northern Cape Province. The farmers that utilise the MN73 road off N14 to access their farms and to visit the Gariiep river will be affected by the realignment. This report hence contains the findings of the social impact assessment for the BAR process.

### **1.1. SOCIAL IMPACT ASSESSMENT (SIA)**

SIA is regarded as “the process of assessing or estimating, in advance, the social consequences that are likely to follow from specific policy actions or project developments, particularly in the context of appropriate national, state, or provincial environmental policy legislation” (Becker et al, 2003). The social impacts are associated with all social concerns of any public or private actions that alter the ways in which people live, work, play, and relate to one another. It also has to do with individuals’ culture, norms, values and beliefs, participation in community activities, and the manner in which they meet their needs and cope as a society (Becker and Vanclay 2003). The changes brought about by development projects should have benefits that outweigh the costs for the project to be meaningful to the community. If the costs outweigh benefits, it is important to devise mitigation plans for the improvement of the situation.

The SIA practitioners utilise the SIA instrument or methodology to determine the social impacts from a project and to provide ways to mitigate potential impacts (Vanclay, 2003). Amongst the many SIA phases, it is always important to include the public consultation process in order to gather the views of those likely to be impacted by the development. SIA is mainly concerned with human dimensions of the environment, hence SIA is,

*“the process of analysing (predicting, evaluating and reflecting) and managing the intended and unintended consequences on the human environment of planned interventions (policies, programs, plans, projects) and any social change processes invoked by those interventions*

*so as to bring about a more sustainable and equitable biophysical and human environment (Vanclay, 2003: 2)."*

The National Environmental Management Act (NEMA) (Act 107 of 1998) sets out a number of principles which underpin environmental management in South Africa. A number of these principles relate to the social dimension of sustainable development and public process requirements such as transparency, accountability, democracy and environmental justice. The following principle outlines the basis for a Social Impact Assessment:

*Environmental management must place people and their needs at the forefront of its concern, and serve their physical, psychological, developmental, cultural and social interests equitably.*

More specifically, the social, economic and environmental impacts of activities must be considered and assessed. SIA is a useful planning tool that can assist the project proponent to conceptualise and implement a project in a manner which would see the identified negative social impacts addressed through avoidance or mitigation and the positive impacts realised and optimised. It also allows the community to anticipate, plan for, and deal with the social changes once they come to effect. In this sense then the SIA is an indispensable part of the EIA, the Environmental Management Programme (EMPr) and any participative activity (e.g. community involvement in mitigation and monitoring during planning and implementation). The purpose of a SIA report is to present baseline information regarding the social environment and to identify possible social impacts that may come about as a result of a project. The report specifies the most likely associated social impacts to occur from the proposed project. Also methods to enhance positive impacts and ways of avoiding, reducing or mitigating negative impacts identified.

## **1.2. TERMS OF REFERENCE**

The main aim of the SIA report is to assess the potential social impacts that may arise from the proposed realignment and recommend the most appropriate mitigation or enhancement measures that may reduce or improve the impacts associated with the proposed development. The purpose of the SIA is to:

- » to provide baseline information describing the social environment affected by the proposed development;
- » to identify, describe and assess possible social risks/fatal flaws and impacts that may be triggered by the proposed development either during construction, operation or decommissioning phases of the project; and

- » to recommend ways to mitigate negative impact and enhance positive measures in order to maximise available opportunities and/or reduction of negative social impacts, including the cumulative ones.

### **1.3. SPECIALIST DETAILS**

The BA report was prepared by a Savannah Environmental social scientist, Pamela S. Sidambe, a SIA specialist, who holds a Master's degree in Social Impact Assessments from the University of Johannesburg, an Honours in Development Studies and a Bachelor's degree in Community Development both from the University of South Africa (UNISA). The report has been reviewed by Dr Neville Bews, an independent external SIA specialist with over 10 years of consulting experience in the field of SIA. Dr Bews, holds a PhD in Sociology and many other certificates.

### **1.4. DECLARATION OF INDEPENDENCE**

In appendix C, is the signed declaration of independence for the SIA specialist, Pamela S. Sidambe of Savannah Environmental.

### **1.5. PROJECT OVERVIEW**

#### ***Project background and description:***

The NC DR&PW proposes realigning the road MN73 which is off the N14. The road currently traverse the footprint proposed for the development of the Paulputs Concentrated Solar Power (CSP) facility and its associated infrastructure. The realignment of the road is hence to accommodate the proposed development as well as other sole energy facilities near the Paulputs Substation.

The proposed road realignment comprises the following main activities:

- » Decommissioning of approximately 3km of the existing MN73;
- » Construction of approximately 4km long and 7m wide road;

The asset owner will be the Northern Cape Department Roads and Public Works as they are the custodians of provincial roads in the Northern Cape. All technical designs of the road will be approved by the Department.

#### ***Alternatives:***

No other alternative has been considered

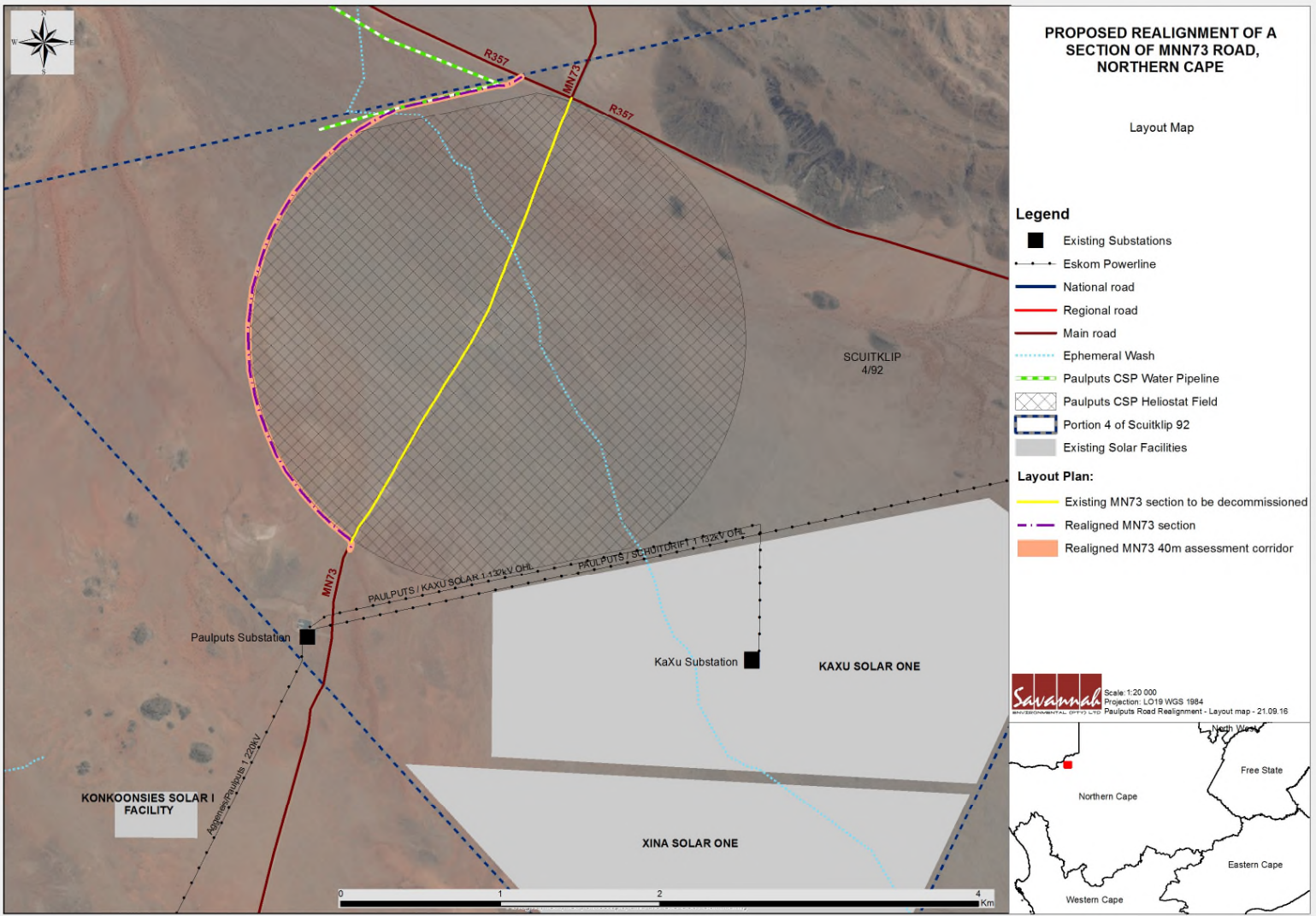


Figure 1: Layout map

**Locality and size:**

The MN73 road realignment falls within Portion 4 of the Scuitklip 92 farm, approximately 45km north-east of the Pofadder in the Northern Cape Province (see Figure 1, the layout map).

**Construction phase:**

- » *Duration:* It is estimated that the construction of the proposed road realignment will take 3-4 months to complete.
- » *Capital expenditure:* The total construction capital expenditure associated with the establishment of the proposed MN73 realignment is estimated to be in the region of R3, 267 million. In terms of business opportunities for local companies, expenditure during the construction phase can create business opportunities for the regional and local economy.
- » *Employment opportunities and wages:* The proposed realignment of the MN73 is likely to create ~15 temporary employment opportunities during the construction phase. Of this approximately 50% of the opportunities will be available to low-skilled workers (construction labourers, security staff etc.), 30% will be available to semi-skilled workers (drivers, equipment operators etc.), and 20% for skilled personnel (engineers, land surveyors, project managers etc.). The local economy will be boost by injection of income into the area in form of wages.
- » *Labour accommodation:* According to information provided by the proponent, no on-site accommodation is envisaged. Most labourers will be sourced from the local area and will not be housed on site. However, a security team is likely to be present at the construction equipment camp at all times. Labourers and skilled staff from outside the area will be housed off-site within the town of Upington.
- » *Transportation of components and equipment:* Project components and equipment to the proposed site would be transported using vehicular / trucking transport via the MN73. Once the required equipment has been transported to site, a dedicated construction camp, equipment and material storage area will be established. The construction camp serves to confine activities and storage of equipment to one designated area. The site will be serviced with mobile water supply and ablution facility.

**Operational phase:**

Once the MN73 road is re-aligned, it will belong to the Northern Cape Department of Roads and Public Works. Therefore, the Department will be responsible for any operations and maintenance of the road.



## **2. Methodology and Approach**

### **2.1. APPROACH TO STUDY**

The SIA study is undertaken for the purpose of establishing the social impacts associated with a proposed development in order to establish the mitigation or enhancement measures. The approach followed is based on the Western Cape, February 2007 Department of Environmental Affairs and Development Planning guidelines for social impact assessment. The foundation for the department's SIA process is the International Association for Impact Assessment (IAIA) guideline.

The SIA process objectives are to:

- provide a description of the project (type, scale), the site, communities and stakeholders likely to be affected by the proposed development;
- collect data on the state of the social environment prior to the development;
- identify and consult the affected parties, so as to evaluate the effect of various impacts that may result from the proposed development;
- evaluate and document significance of social impacts associated with the proposed development;
- assess the project and its feasible alternatives and identify possible mitigation as well as enhancement measures; and
- develop an Environmental Management Programme (EMPr).

### **2.2. DATA COLLECTION**

Primary and secondary data sources were utilised to inform the study in aid of the objectives of the study. Primary data sources for the SIA included the following:

- » A project specific questionnaire was developed and utilised for the semi-structured meetings (refer to minutes of the discussions in Appendix B). These engagements formed the basis of the primary data collection and assisted with the gathering of baseline information as well as establishing the stakeholders' interests and concerns on the proposed development.
- » Telephone discussions were arranged and held with key representative stakeholders between 15 and 27 August to collect primary social data (refer to Table 3). The engagements were done with individuals that were both directly and indirectly associated with the proposed project. Data collection was primarily gathered from engagements with the impacted landowners, adjacent landowners and the local municipality.

**Table 3: Stakeholder consultation schedule**

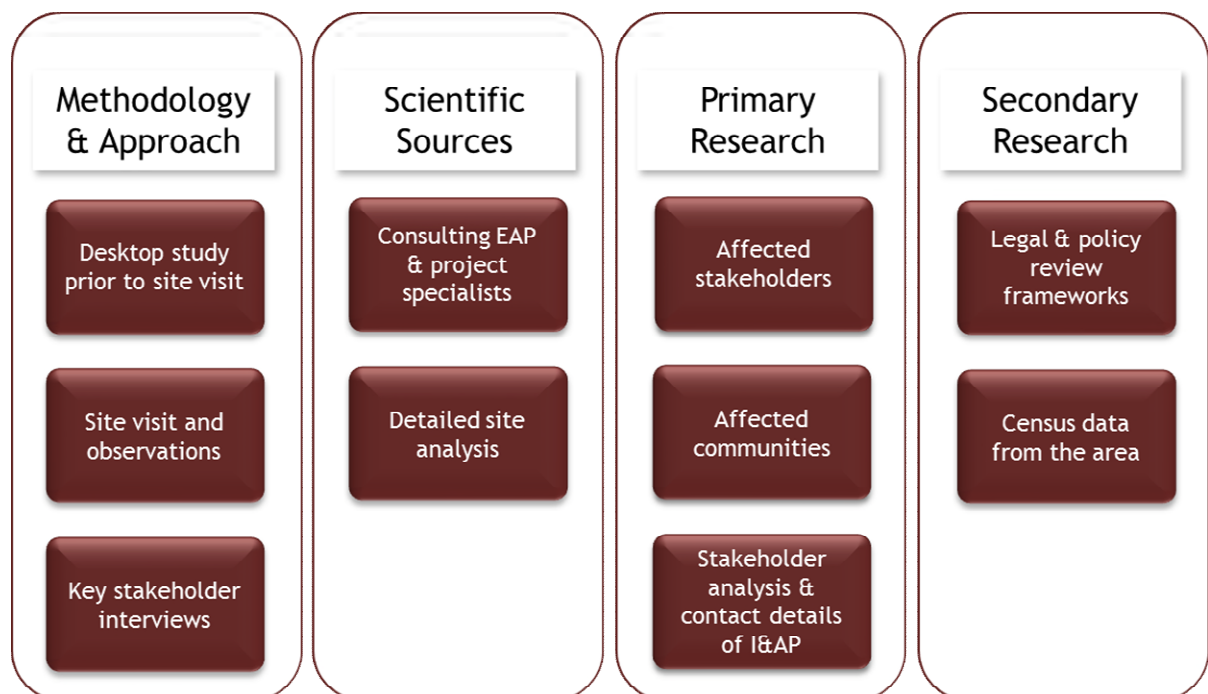
Meeting	Meeting Details	Notes
<b>DAY 1 – 15 AUGUST 2016</b>		
Mr Harmse Steenkamp Farm portion Nongcaip 4 (142)	Agreed to a telephone discussion.	The record of the discussion is included in this document.
Mr Willem Marais Farm portion Konkoonsies 4 (91)	Agreed to a telephone discussion.	The record of the discussion is included in this document.
<b>DAY 2 – 17 AUGUST</b>		
Jenetta Sophia Henning Helien Pennedeeg and Elize Swart Farm portion vaal koppies 80	Agreed to a telephone discussion.	Talitha had separate discussions with each sister (farm owned jointly by the 3). The records of the discussion are included in this document.
<b>DAY 3: 22 AUGUST, 2016</b>		
Fanie van der Heever Farm portion KOONKOONSIES 6 (91) & SCUIT-KLIP 1(92)	Agreed to a telephone discussion.	The record of the discussion is included in this document.
Erik Markram Farm portion 2 (91) & 5 (91)	Agreed to a telephone discussion.	The record of the discussion is included in this document. (The previous owner of the farmer, till indicated in the records is deceased)
<b>DAY 4 – 25 AUGUST</b>		
Willem Burger Farm portion Paardeneiland 90	Agreed to a telephone discussion.	The record of the discussion is included in this document.
<b>DAY 5 – 26 AUGUST</b>		
Paul van der Heever Farm portion KABAS RE/141	Agreed to a telephone discussion.	The record of the discussion is included in this document.
<b>DAY 6 –</b>		
Nico Brand Farm portion KONKOONSIES 1 (91)	Unable to get hold of landowner	

Secondary data, mostly collected by means of a desktop study, was gathered and analysed for the purpose of the study. The following documents were examined:

- project maps;
- aerial study of the project site through use of the latest version of google earth pro 2016;
- the 2011 South African Census results and the local government handbook;
- the District Municipality (DM) Integrated Development Plans (IDPs), Spatial Development Framework (SDF) and the Environmental Management Framework (EMF) as well as the Local Municipality IDPs and Policies;
- relevant guidelines, policies, and planning frameworks outlined in section 3 of this report;

- similar specialist studies in the Northern Cape Province and South Africa as a whole;
- literature reviews of social issues associated with realignments of roads; and
- the Paulputs stakeholder list.

Data collected was evaluated both quantitatively and qualitatively as well through use of professional assessment. Quantitative unlike qualitative data is usually straight forward and not subjective. With regards to qualitative data, various interpretations are usually given as people are impacted by the same social issues in a different way and the magnitude of the effect varies. Hence it makes it difficult to rank the results the same way for different parties affected or interested in the project.



**Figure 2:** Research methodology and sources diagram

### 2.3. PUBLIC PARTICIPATION PROCESS

Consulting with people and stakeholder disclosure are integral in the SIA process as the success of projects depends on well satisfied individuals. Many a times certain issues and clarifications are better communicated through a public participation process (PPP). In some instances, the PPP and SIA processes have been integrated for achieving better results. Understanding of community or individual issues or concerns with regards to a project is the key to the success of any project. This makes effective consultation a very important element to uphold at all times.

The PPP was effective in creating awareness of the project in the community through providing information and listening to people's concerns. Relevant stakeholders are informed about a proposed development, so they can register as I&AP to participate in the EIA process. The exercise is important as key environmental and social concerns are discussed, which gives direction in proposing strategies for addressing the impacts. The written submissions and any communication relevant received during the PPP process have been incorporated into this report.

#### **2.4. IMPACT EVALUATION METHOD**

The evaluation of the nature, extent, probability, magnitude and significance of any social impact is integral in the SIA process. It is the avenue for formulating strategies to enhance or mitigate possible impacts of the proposed development. Each impact is subjected to an evaluation method discussed underneath to determine if the proposed road realignment has higher social risks than opportunities or vice-versa. This gives the project proponents a chance to reflect on their plans and work with the community in enhancing the benefits and reducing the negative impacts as far as possible. The methodology below includes the assessment of the significance of direct, indirect and cumulative impacts associated with the proposed realignment of the road.

The **nature** of the impact refers to the causes of the effect, what will be affected and how it will be affected.

**Extent (E) of impact** – refers to the geographical effect of the proposed development, whether it is local, regional or national

Local (site or surroundings) - - Regional - national

Rating = 1 (low) to 5 (high).

**Duration (D)** – refers to the length of each phase of development. The rating is awarded as follows:

Whether the life-time of the impact will be:

- » very short term – up to 1 year: Rating = 1
- » short term – >1 – 5 years: Rating = 2
- » moderate term – >5 – 15 years: Rating = 3
- » long term – >15 years: Rating = 4
  - » The impact will occur during the operational life of the activity, and recovery may occur with mitigation (restoration and rehabilitation).
- » Permanent – Rating = 5
  - » The impact will destroy the ecosystem functioning and mitigation (restoration and rehabilitation) will not contribute in such a way or time span that the impact can be considered transient.

**Magnitude (M)** refers to the degree or severity of the impact:

A rating is awarded to each impact as follows:

- » Insignificant impact – the ecosystem pattern, process and functioning are not affected.  
Rating = 0
- » Minor impact - a minor impact on the environment and processes will occur.  
Rating = 2
- » Low impact - slight impact on ecosystem pattern, process and functioning.  
Rating = 4
- » Moderate intensity – valued, important, sensitive or vulnerable systems or communities are negatively affected, but the ecosystem pattern, process and functions can continue albeit in a slightly modified way.  
Rating = 6
- » High intensity – environment affected to the extent that the ecosystem pattern, process and functions are altered and may even temporarily cease. Valued, important, sensitive or vulnerable systems or communities are substantially affected.  
Rating = 8
- » Very high intensity – environment affected to the extent that the ecosystem pattern, process and functions are completely destroyed and may permanently cease.  
Rating = 10

**Probability (P)** (certainty) describes the possibility or likelihood of the impact actually occurring. It is rated as follows:

- » Very improbable – where the impact will not occur, because of either design or historic experience.  
Rating = 1
- » Improbable – where the impact is unlikely to occur (some possibility), either because of design or historic experience.  
Rating = 2
- » Probable - there is a distinct probability that the impact will occur (<50% chance of occurring).  
Rating = 3
- » Highly probable - most likely that the impact will occur (50 – 90% chance of occurring).  
Rating = 4
- » Definite – the impact will occur regardless of any prevention or mitigation measures (>90% chance of occurring).  
Rating = 5

**Significance (S)** - is determined through addition of the impact symbols of the extent (E), duration (D) and magnitude (M) multiplied by the probability impact

figure,  $[S = (E+D+M) *P]$ . The total weighting points are further classified as low, medium or high

The **significance weighting** influences the proposed development as follows:

- » Low significance (significance weighting: <30 points)

A weight of 30 points implies that the negative impacts have little effect on the current state of the environment around the site for the proposed development. In such a scenario the environmental resources in the area can withstand some bit of pressure, but return to their normal state prior the disturbance within a short space of time. Hence impacts of low significance cannot influence the decision to terminate/proceed with the development.

- » Medium significance (significance weighting: 30 – 60 points)

A score of between 30 to 60 points calls for alarm as it indicates that the impacts are real and can influence the stoppage of the project. It is important at this stage to come up with mitigation and management plans before the approval of the project as there are little chances of the environment rehabilitating to its original state within medium to long term.

- » High significance (significance weighting: >60 points)

A weight above 60% is an indicator that the project will have a great effect if allowed to proceed. The environmental resources in the area will be destroyed leading to the collapse of the ecosystem, process and functioning. Impacts of this nature strongly influence the decision to halt or proceed with the project. There is a need for strong mitigation measures. If the mitigation plans cannot be effectively implemented, the proposed development should be completely terminated until other options are availed.

## **2.5. LIMITATIONS AND ASSUMPTIONS**

A number of limitations were experienced during the impact assessment process, which include:

- in terms of statistical data for any area in South Africa, the most recent census results available are for 2011. It has been five years since the census survey was undertaken, which makes it difficult to depend on the available data. A lot of changes have taken place since the last count. However, the census results are official, so that is the source which was utilised in reaching conclusions contained in this report;
- to have a better understanding of the community of interest, the latest district and local municipality policies and plans were consulted for relevant information. Unfortunately, the picture is similar to that of

census results as the municipalities reports may also be outdated and not reflecting the true socio-economic dynamics of the community;

- this report was done with information available to the specialist at the time of executing the study. The specialist tried to take an evidence-based approach in compiling the report, however, there may be additional or contradictory information that could have been used to strengthen the report. It was not a deliberate move to exclude any relevant scientific information;
- few project details had been finalised by the project developer at the time of finalising the report. This could indicate that some of the projections may be higher or lower than what is included in this report; and
- it was assumed that the information gathered from the developer, the independent environmental practitioner and the public participation consultant throughout the research exercise was accurate and not misleading in any way. Above all it is believed that the developer took all decisions with integrity.

### **3. Legislation and Guidelines**

A review of the policy environment provides valuable insight into the government's priorities and plans. The review of the relevant planning and policy documents was undertaken as part of the SIA process. The key documents reviewed included:

#### National Policies:

- » The Constitution Act 108 of 1996
- » National Environmental Management Act 107 of 1998 (NEMA)
- » National Development Plan 2030

#### Provincial Policies:

- » Northern Cape Provincial Development and Resource Management Plan / Provincial Spatial Development Framework (PSDF) (2012)
- » Northern Cape Provincial Growth and Development Strategy (NCPGDS) (2011)
- » Northern Cape Provincial Local Economic Development Strategy (LED) (2009)

#### Local and District Policies:

- » Namakwa District Municipality Environmental Management Framework (EMF) and Strategic Environmental Management Plan (SEMP) (2011)
- » Namakwa District Municipality Integrated Development Plan (2013-2014/2012-2016)
- » Namakwa District Municipality Local Economic Development Strategy (LED) (2009)
- » Khai-Ma Local Municipality Integrated Development Plan (IDP) (2012-2017) (Review 2015-2016)

A brief discussion of the relevant policies is provided in this section. Reviewing the legislative and policy documents related to the project site is integral as it provides the background information in identifying and assessing the social impacts associated with a proposed development. The SIA process assess the suitability of a proposed project in relation to the policies, plans and guidelines of a particular area.

#### **3.1. NATIONAL POLICIES**

##### ***3.1.1. The Constitution of the Republic of South Africa (Act 108 of 1996)***

The Constitution of the Republic of South Africa (Act 108 of 1996) is the supreme law of the country, hence forms the foundation for the protection of rights for everyone. With regards to the environment, Chapter 2, section 24 specifies that everyone has a right to:

- a. "an environment that is not harmful to their health or well-being;



- b. have the environment protected for present and future generations, through the enforcement of laws by the government that:
  - i. prevent pollution and damage to our natural resources;
  - ii. promote conservation; and
  - iii. make sure that natural resources are developed while also promoting the economic and social development of people”.

In Chapter 7 Section 152, five local government objectives are outlined as follows:

- “to provide democratic and accountable government for local communities;
- to ensure the provision of services to communities in a sustainable manner;
- to promote social and economic development;
- to promote a safe and healthy environment; and
- to encourage the involvement of communities and community organisations in the matters of local government”.

The promotion of social and economic development is spelled out in Chapter 7 of the constitution. It thus means that it is everyone’s human right to benefit from a project in their community. In the case of the proposed road realignment, economic opportunities are likely to go up in terms of job and business prospects. For realisation of any development fruits, there is need to uphold issues of sustainability. Hence SIA is a critical element for sustainable development as impacts associated with any project are assessed to ensure they take into consideration people’s future needs.

### ***3.1.2. The National Environmental Management Act (107 of 1998) (NEMA)***

The management of the environment in South Africa is governed by NEMA. “The Act provides for co-operative environmental governance by establishing principles for decision-making on matters affecting the environment”. The most predominant principle in chapter 1 emphasis the need for socially, environmentally and economically sustainable developments.

EIA is defined as an organised “process of identifying, assessing and reporting environmental impacts associate with an activity” (Government Notices 2014: 14). The SIA process provides the social issues associated with a proposed development for the purpose of incorporating them into the EIA report. This allows for a comprehensive report of impacts and strategies for addressing them.

### ***3.1.3. National Development Plan 2030***

South Africa is faced with high poverty and inequality. The imbalances between those employed and the unemployed puts the country under enormous strain. The National Planning Commission had to establish the plans to develop the strategies to address those imbalances. The national development plan aim to

eliminate poverty and reduce inequality by 2030. The plan sets out a number of interlinked priorities, which include:

- » bringing about faster economic growth, higher investment and greater labour absorption.
- » focusing on key capabilities of people and the state.
- » building a capable and developmental state.

The enabling milestones that have been identified are to:

- increase employment from 13 million in 2010 to 24 million in 2030;
- increase the share of national income of the bottom 40 percent from 6 to 10 percent;
- establish a competitive base of infrastructure, human resources and regulatory frameworks
- ensure gender and disability balance in both skilled and non-skilled personnel;
- increase the quality of education;
- provide affordable access to quality health care; and
- produce sufficient energy

The National Development Plan aim to create an enabling environment for growth and development as well as a more labour absorbing economy. Through the road realignment project, a number of employment opportunities will be created during the different phases of the project life.

### **3.2. PROVINCIAL POLICIES**

A brief review of the most relevant provincial policies is provided below. The proposed development is considered to align with the aims of these policies, even if contributions to achieving the goals therein are only minor.

#### ***3.2.1. Northern Cape Provincial Development and Resource Management Plan / Provincial Spatial Development Framework (PSDF) (2012)***

The Provincial Spatial Development Framework (PSDF) ensures that the vision, goals and objectives of the Province are implemented effectively from the district to the local level. The Northern Cape PSDF gives effect to the following five strategic objectives of the National Strategic for Sustainable Development (NSSD, 2011 – 2014):

- » enhancing systems for integrated planning and implementation;
- » sustaining our ecosystems and using natural resources efficiently;
- » towards green economy;
- » building sustainable communities; and
- » responding effectively to climate change

The NC PSDF also contains information on the economic development of the Province. Economic development should respond to the availability of environmental capital (e.g. water, suitable agricultural soil, mining resources etc.) and infrastructural capital (e.g. roads, electricity, bulk engineering services etc.). The emphasis in these policies, has resulted in the distinct development of the region and its corridors.

### **3.2.2. Northern Cape Provincial Growth and Development Strategy (NCPGDS) (2011)**

It is the government's responsibility to facilitate a better life for the nation. To ensure that takes place, planning should be integrated across all disciplines, coordinated between different planning jurisdictions and aligned with the budgeting process of the nation, Province and local government. The fundamental existence of NCPGDS is to set the tone for development planning and to outline the strategic direction of the Province. The NCPGDS facilitates determination of a sustainable plan for the Northern Cape by various community stakeholders, such as the public and private sector, labour and civil society.

The main objectives set by the NCPGDS for development planning in the Province are:

- » promoting the growth, diversification and transformation of the provincial economy;
- » poverty reduction through social development;
- » developing requisite levels of human and social capital;
- » improving the efficiency and effectiveness of governance and other development institutions; and
- » enhancing infrastructure for economic growth and social development.

The NCPGDS aims at building a prosperous, sustainable growing provincial economy to eradicate poverty and improve social development. The proposed project will create economic and job opportunities for the community of Nama Khoi and beyond.

### **3.2.3. Northern Cape (NC) Provincial Local Economic Development Strategy (LED) (2009)**

The Northern Cape (NC) local economic development plans feed into the provincial economy, which in turn contributes into the national economy. The primary purpose is to mobilise the local people and their resources in an effort to fight poverty. The current NC LED strategy aimed at broadening the economic base for the benefit of its occupants focuses on a number of opportunity areas such as; livestock products, game farming, horticulture, agriculture and agro-

related industries, tourism, management and iron ore, beneficiation of minerals as well as renewable energy.

The LED provides local municipalities with leadership and direction in policy making, in order to administer policy, programmes and projects, and to be the main initiator of economic development programmes through public spending. It is noted in the LED that renewable energy is an area of opportunity to broaden the local economic base and promote the creation of employment opportunities as well as local economy spin-off effects. It is thus critical to realign the road to accommodate the CSP facility.

### **3.3. DISTRICT AND LOCAL MUNICIPALITIES POLICIES**

The district and local level strategic policies, like the provincial policies, are also aimed at accelerating economic growth, creation of employment and alleviation of poverty. The business and work prospects that come with the road realignment project are considered to be in line with the aims of these policies, though its contributions are minimal.

#### ***3.3.1. Namakwa District Municipality Environmental Management Framework (EMF) and Strategic Environmental Management Plan (SEMP) (2011)***

The Namakwa Environmental Management Framework (EMF) and Strategic Environmental Management Plan (SEMP) was developed in order to provide a high level plan for sustainable development in the Namakwa District Municipality of the Northern Cape Province. The EMF and SEMF was developed in order to provide a high level plan for sustainable development in the Namakwa District Municipality. The management acknowledges the need for social and economic development and provides strategic issues which should be addressed to take advantage of environmental goods and services. The EMF and SEMF does not prohibit development. The focus of the EMF is to restrict development in zones with the greatest sensitivity and allow development in the zones of low sensitivity. The report makes reference to the fact that large portions of land need to be cleared for energy generation projects. These types of projects usually pose a higher threat to the immediate surrounding environments due to the nature of the project. However, the need for sustainable energy is acknowledged in the EMF and it is recommended that energy generation projects be limited to Environmental Management Zone (EMZ) D (medium sensitivity area) – G (very low to not applicable sensitivity) area.

#### ***3.3.2. Namakwa District Municipality Integrated Development Plan (2016 - 2017)***

The Namakwa District Municipality (NDM) adheres to the values contained in the Batho Pele Principles. Its vision was formulated in 2011 to articulate the priorities, challenges and programmes of action over the next five years. The vision of NDM is the center of excellence and the strategic objectives are as follows:

- » Ensuring the delivery of basic services which include water, sanitation, electricity and waste management;
- » Creation of a thousand job opportunities through the community public works programme, as part of 4.5million Expanded Public Works Programme (EPWP) jobs;
- » Transformation of administrative and financial systems of NDM and relevant B Municipalities (local municipalities), which includes supply chain management;
- » Ensure the filling of six critical posts (Municipal manager, chief Financial officer (CFO), Town Planner, Town Engineer, Human Resource Manager, Communication Manager) in all municipalities in the District;
- » Clean audits for all Municipalities;
- » Building municipal capacity to enable municipalities to collect their revenue;
- » Ensure sustainable economic and social transformation in the District;
- » A society with a renewed sense of identity and confident in their skills and knowledge;
- » Bridging the digital divide; and
- » Ensure the implementation of environmentally sustainable practices, along with an integrated approach to addressing climate change response, across all sectors.

The IDP aims at promoting local economic growth and social development in order to provide a better life for the communities. The proposed development will contribute in assisting the District Municipality in building a sustainable economy through the field of energy.

### **3.3.3. Namakwa District Municipality Local Economic Development Strategy (LED) (2009)**

The Namakwa District Municipality (NDM) Local Economic Development (LED) seeks to mobilise local people and the local resources in an effort to address poverty issues. Various opportunities are identified in this strategy, including:

- » institutional development for investor readiness (essentially a human capital development and municipal service delivery improvement strategy);
- » SMME developments;
- » agricultural sector development (enabling public sector interventions and the implementation of new technologies);
- » mining Sector development;
- » industrial development (improvement in infrastructure etc.)
- » renewable energy development, including wind, solar, wave and biogas energy;

- » space research and development spin-offs (prioritizing the identification of spin-offs and enabling local entrepreneurs to exploit the opportunities);
- » tourism development (including the specific projects/SMME business opportunities and enabling public sector inventions);
- » quality of life improvements (specific programmes in the Expanded Public Works Programme (EPWP) aimed at improved infrastructure, overcoming backlogs in service delivery, providing education, health and safety services etc.).

The road realignment project allows for economic opportunities for the community. That is in line with the LED of Namakwa District Municipality.

#### **3.3.4. Khai-Ma Local Municipality Integrated Development Plan (IDP) (2012-2017) (Review 2015-2016)**

The Khai-Ma Local Municipality 2012-2017 IDP, through its LED plan aims to create new business enterprises, foster partnerships with government entities and the private sector. The municipality has strategic objectives and five local governments key performance areas (KPA's).

The municipality's strategic objectives include:

- » provision of sustainable services to the inhabitants and maintain existing resources;
- » development of Khai-Ma Municipality institution through transformation and capacity building;
- » promotion of local economic development through poverty alleviation, job creation, empowerment of previously disadvantaged people and establishment of a climate for investment; and
- » promotion of a sound financial management and viability system.

The municipality aims to achieve those objectives through enforcement of five key performance areas(KPAs):

- » institutional capacity and municipal transformation;
- » basic service and infrastructure development;
- » financial viability;
- » local economic development; and
- » public participation and good governance.

The vision of the municipality focuses on utilising its limited resources to strengthen the local economy and improve the living standards and circumstances of its residents. The LED plan stipulates strategic pillars that include increased accessibility, infrastructure investment, wealth creation (through the economy growing from investment and businesses being introduced into the area), broadening the economic base and attracting visitors and investors.

### **3.4. CONCLUSION**

The findings of the review of the relevant policies and documents indicate that the MN73 road realignment project is ideal as the national, provincial and local policies reviewed all point to the need for upliftment of communities. For development to take place, energy is one of the biggest catalyst needed to facilitate that change. The Paulputs CSP project cannot be developed while there is a road that traverses the authorised footprint. The safety of the community should be considered. It is therefore, critical for the road to be re-aligned to allow the Paulputs CSP project to go ahead while accommodating the other solar energy facilities near Paulputs Substation. Improvement in electricity generation in the Khai-Ma Municipal area will contribute towards the various targets and policy aims.

## **4. Socio-Economic Profile**

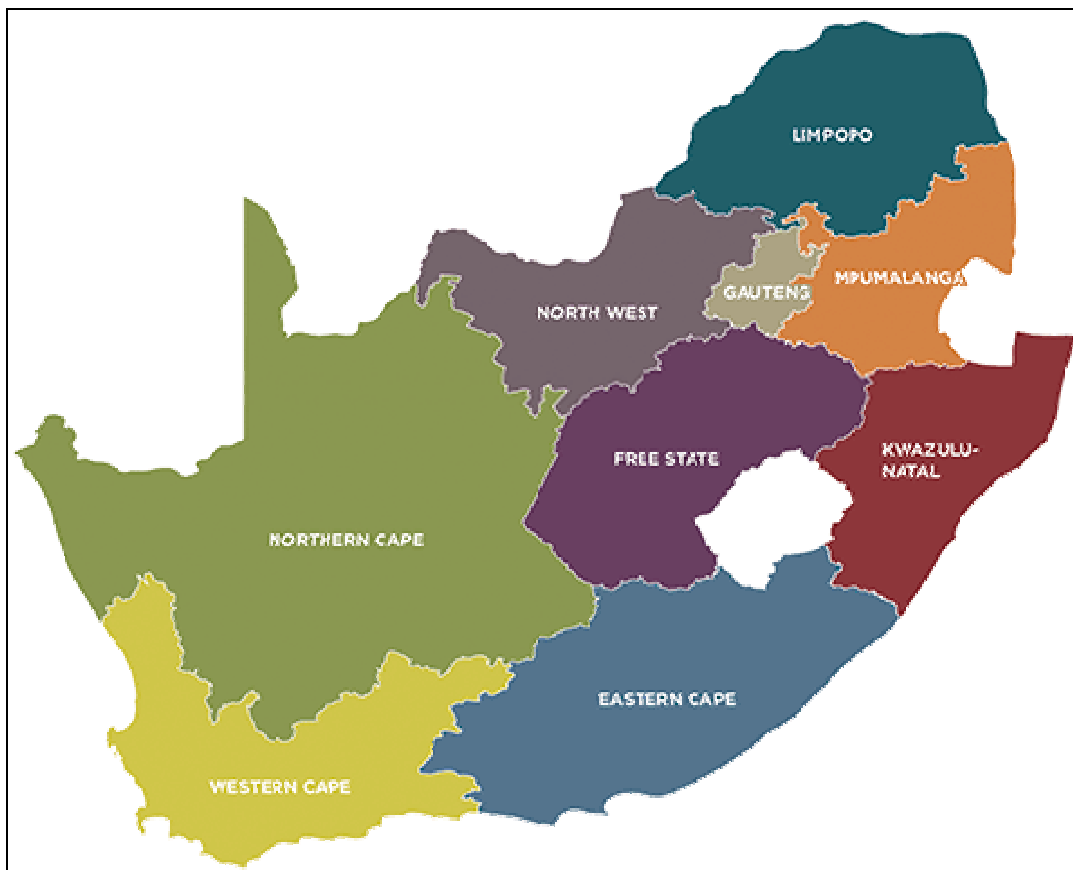
The proposed road realignment project site is located in the Khai-Ma Local Municipality (KMLM) within the greater Namakwa District Municipality (NDM) in the Northern Cape Province. The proposed realignment lies approximately 45km north-east of Pofadder in the Northern Cape Province on Portion 4 of the Farm Scuitklip 92. This section will provide a brief overview of the study area; from a regional - local (which includes the baseline description of the local social environment) - site and surrounding land use context (which includes the land use character of the immediate area of influence).

### **4.1. REGIONAL CONTEXT**

#### **4.1.1. Northern Cape Province**

The vast and arid Northern Cape is by far the largest Province in South Africa, taking up nearly a third of South Africa's land area. The area covers 372 899km<sup>2</sup>, which is 30.5% of South Africa's total area (refer to Figure 3). However, the Northern Cape has the country's smallest population with a little over 1 million people (population 1 145 861), which is 2.2% of South Africa's population. The population density of the Province is extremely low, with three people per square kilometre. Just over half of the population speak Afrikaans (53.8%), with other languages being Setswana (33.1%), isiXhosa and English. The capital of the Northern Cape is Kimberley, located on the Province's eastern border. Other important towns are Upington, the center of the karakul sheep and dried fruit industries, and the most northerly wine-making region of South Africa; Springbok, located in the heart of the Namaqualand spring flower country, and De Aar, the hub of the South African railway network.

Portions of the Northern Cape Province that border the Gariep river and Namibia have the highest solar radiation intensity in the world (State of the environment report (SOER), 2005, cited in the Northern Cape PSD, 2012: 31). This represents a huge comparative economic advantage. At a provincial level, the Northern Cape has been identified as the area with the highest potential for solar renewable energy generation, with high solar radiation levels and the availability of vast tracts of land make it a better position for such developments.



**Figure 3:** Location of the Northern Cape Province in South Africa (Source: Local Government Handbook, 2012)

#### **4.1.2. Namakwa District Municipality (NDM)**

Namakwa District Municipality situated in the western part of the Province (see Figure 4), is one of five districts in the Northern Cape Province. Namakwa district municipality is comprised of six local municipalities: Nama Khoi, Hantam, Khai-Ma, Kamiesberg, Karoo Hoogland and Richtersveld (see Figure 5). It is bordered by the Siyanda (ZF Mgcau) and Pixley ka Seme districts of the Northern Cape Province to the North-East and East, respectively, and by the Western Cape Province to the South (the West Coast, Boland and Central Karoo District Municipalities). The Atlantic Ocean forms the western boundary, while the Gariep river forms the Northern border with Namibia.





**Figure 4:** Location of the Namakwa District Municipality in the Northern Cape Province

Geographically, the NDM constitutes a large area of approximately 126 747km<sup>2</sup>, making it the largest district in South Africa. It also has the smallest population, 10.1% of all districts in South Africa and a dispersed population density. The socio-economic profiling baseline data shows that poverty is widespread throughout the district (Namakwa IDP 2013-2014: 5). The district is characterised by large open semi-arid land, with small towns focusing on mining, tourism and agriculture. The majority of land is un-used/vacant, with small pockets of agricultural land (mostly stretching north from the Western Cape along the N7 towards Springbok) and important conservation areas. The north western portion of the district (along the coast and along the Gariiep river) is also used for mining, mostly of diamonds. The area has significant environmental resources (sensitive species, biomes and flora) and has been identified for tourism growth

and conservation activities. The district also has a competitive advantage in the renewable energy industry, in that wind, solar, wave and nuclear power have all been identified as potentially successful (Namakwa LED, 2009: 4-5).

## 4.2. LOCAL CONTEXT

### 4.2.1. Khai-Ma Local Municipality (KMLM)

The Khi-Ma- local municipality (KMLM) lies in the central region of the Namakwa district municipality (NDM) of the Northern Cape Province. The major towns in the KMLM are Aggeneys, Pella, Witbank, Onseepkans and Pofadder. Within the Local Municipality there are four wards and the proposed realignment is in ward 1 in the town of Pofadder, an economic hub and the seat for local government.



**Figure 5:** Location of the Khai-Ma Local Municipality within the Namakwa District Municipality

The KMLM 2012-2017 IDP indicates the potential for eco-tourism that needs to be exploited and managed in a sustainable manner in order to retain the unique setting in the local area. The Gariiep river and flowering season in Namaqualand attracts tourists from across the country and abroad. KMLM offers numerous tourism attractions like 4x4 trails, walking routes, mountain climbing, canoeing, the cathedral at Pella, a “Quiver “forest at Onseepkans and cultural heritage. The

municipality is characterised by vast tracts of land, pristine natural environment, unique mountains and its limited cell phone reception, which can be regarded as a unique attraction by some urban dwellers who wish to escape the cities' vibe.

The four main economic sectors in the KMLM comprise livestock grazing, agriculture, mining and tourism. The key drivers of the economy include activities at Aggeneys, granite works and farming along the Gariiep river. Renewable energy as well as conservation and ecological restoration are the two major upcoming sectors that will boost the economy in the KMLM. Realigning the road is thus an imperative project if the municipality is to experience a boost in their economy as without the realignment there cannot be a development of the Paulputs CSP project.

#### **4.2.2. Baseline Description of the Social Environment in the KMLM**

This section will provide a strategic understanding of the socio-economic profile of the KMLM, in order to develop a better understanding of the socio-economic performance as a background to the development of the project. The data presented in this section has been largely derived from the Khai-Ma Local Municipality (KMLM) IDP 2012-2017, Namakwa District Municipality (NDM) IDP, the most recent (2011) Census, as well as the local government handbook 2012.

#### **Population**

According to the 2011 census survey, the KMLM population is estimated at 12.465. The municipality covers a geographical area 8 310km<sup>2</sup> which is approximately 7% of Namakwa district's total population (KMLM IDP 2012-2017). Approximately 10% (see Table 4) of the district population lives in Khai-Ma Local Municipality and the population density is approximately 1 person per square kilometre dispersed across its five towns, Aggeneys, Onseepkans, Pella, Pofadder and Witbank. This indicates that the municipality is sparsely populated.

**Table 4:** Population statistics in the NDM and KMLM (Source: Census 2011)

<b>Census 2011</b>	<b>Area (km<sup>2</sup>)</b>	<b>Population total</b>	<b>Population density /km<sup>2</sup></b>	<b>Population growth rate % (2001 - 2011)</b>
Northern Cape	372 889	1 145 861	3.1	1.4
NDM	126 836	115 842	0.91	0.7
KMLM	8 310	12 465	0.75	0.7

Pofadder is the main town in the KMLM, covers approximately 162.09km<sup>2</sup> with a population of 3287 and a density of 20 people per square kilometre (Census, 2011). Despite being very small, the town's economic contribution is very significant.

### **Population groups**

The 12 465 KMLM population is composed of 75.1% coloured, 17.6% black African, 6% white and 0.4% Indian/Asian (see Table 5). Afrikaans is the most prominent spoken language in the municipality.

**Table 5:** Population groups within the KMLM (Source: Census 2011)

<b>Group</b>	<b>KMLM</b>
Black African	17.6%
Coloured	75.1%
White	6.0%
Other	0.4%

### **Age composition and gender differentiation**

The age structure of a population is extremely important for planning purposes. Table 6 indicates the age and sex profile of citizens living in the KMLM.

**Table 6:** Age distribution (Source: Census 2011)

<b>2011</b>	<b>KMLM</b>		
	<b>Male</b>	<b>Female</b>	<b>Total</b>
<b>0-14</b>	13.4%	12.3%	<b>25.9%</b>
<b>15-24</b>	9.7%	8.7%	<b>18.4%</b>
<b>25-64</b>	27%	23.4%	<b>50.4%</b>
<b>65+</b>	2.2%	3.3%	<b>5.5%</b>

According to the results shown on the table above, 25.9% of the KMLM population is less than 15 years and 5.5% are over 65 years. People below the age of 15 and those over 65 are outside the working age, hence they are defined as a dependent population. In the KMLM 31.4% of the population is dependent on the economically active population (EAP) of 68.6%. However, the dependency ratio of 31.4% could be higher as not everyone in the working age is economically active, some could be studying fulltime, housewives or retrenched.

The high proportion of potentially economically active people implies that for development projects planned in the KMLM, there is an available human capital base to tap from. The local population can be extensively involved in areas of their expertise.

### **Education levels**

Table 7 below, indicates that the majority of the adult population (individuals aged 20 years and above) that reside in KMLM have some form of education.

However, only 9.8% completed secondary education, with only 1.2% of the population having attained higher education. Thus, the majority of the population may be in need of opportunities to better their education so as to improve on skills base of the community.

**Table 7:** Education levels (Source: Census 2011)

2011	KMLM
No Schooling	2%
Some Primary	43.1%
Completed Primary	7.1%
Some Secondary	34.4%
Completed Secondary	9.8%
Higher Education	1.2%
Not Applicable	2.5%

Education plays a pivotal role in community development. It provides a set of basic skills for development, creativity and innovative abilities. The level of education influences growth as well and economic productivity of a region. There is a positive correlation between a higher level of education and the level of development as well as standard of living. Education levels in any given population will influence economic and human development. It is clear that low education levels lead to low skills base in an area, while high education levels have the opposite effect, producing a skilled or highly skilled population. Household and personal income levels are also either positively or adversely affected by education levels.

### ***Employment***

The Statistics of South Africa (StatsSA) defines various employment concepts as follows:

- » An economically active person (EAP) – “anyone between the age of 15 and 65 available to work, either employed or unemployed, but actively seeking work in the reference period.”
- » Employed – “those who performed work for pay, profit or family gain for at least one hour in the seven days prior to the interview or who were absent from work during these seven days, but did have some form of paid work to return to.”
- » Official and expanded definition of unemployment – “those people within the economically active population who: (a) did not work during the seven days prior to the interview, (b) want to work and are available to start work within two weeks of the interview, and (c) have taken active steps to look for work or start some form of self-employment in the four weeks prior to the interview.”

- » Labour force - "All employed and unemployed persons of working age".
- » Unemployment rate - "the percentage of the economically active population that is unemployed."

The total unemployment rate in the KMLM is 22.1%. Youth unemployment is currently 23.6%. Table 8 below, shows that there are 1304 who are in need of work. This number could be increased through motivating those that are discouraged to seek job opportunities.

**Table 8:** Employment status (Source: Census 2011)

2011	KMLM
Employed	4600
Unemployed	1304
Discouraged work seeker	322
Not economically active	2327

The employment profile of the study area is an important indicator of human capital available, also level of disposable income and subsequently the expenditure capital of the residing population. Poverty and unemployment are closely correlated. The proposed project is expected to generate employment opportunities in the construction and operation phase of the road through maintenance services.

### ***Income levels***

Income levels in the KMLM are grouped into three categories; low, middle and high income as indicated in table 9. The average household incomes of the KMLM according to the 3 classifications used are as follows:

- » 56% of household income falls within the poverty level;
- » 39.1% of the KMLM households earn a middle income salary; and
- » 4.9% of the KMLM households earn a high income.

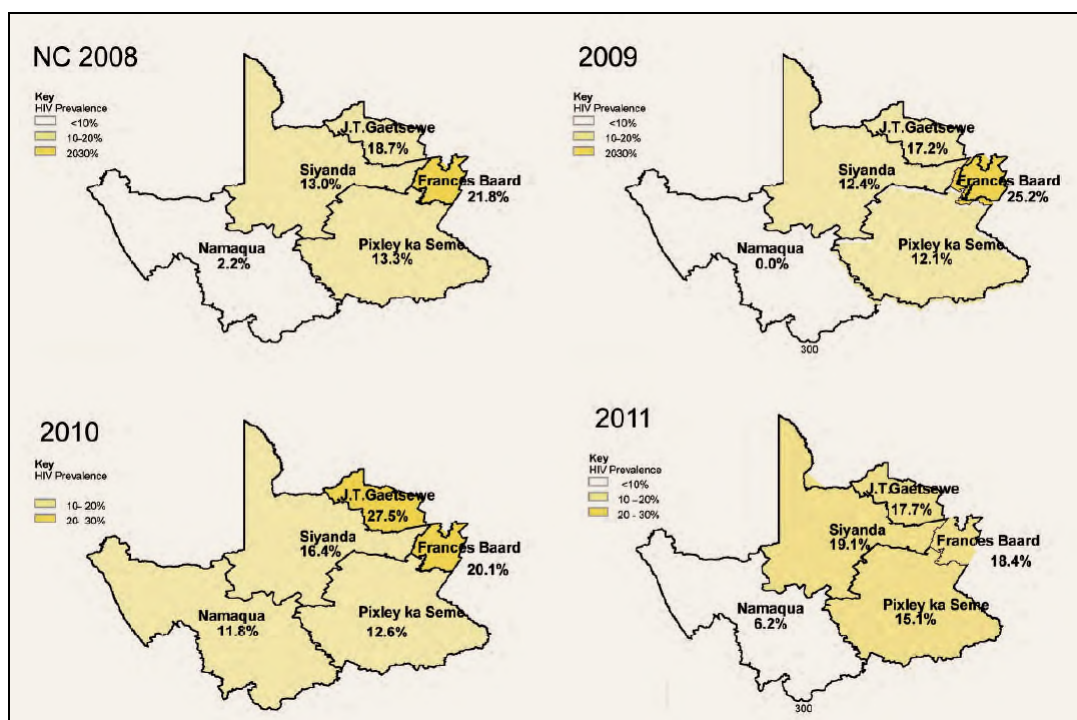
**Table 9:** Average household income in KMLM (Source: Census 2011)

2011	% KMLM	Classification
No income	8.4%	Low Income (Poverty Level)
R1 – R4 800	2.6%	
R4 801 – R9 600	5%	
R9 601 – R19 600	17.7%	
R19 601 – R38 200	22.3%	
R38 201 – R76 400	18.7%	Middle Income
R76 401 – R153 800	13.4%	
R153 801 – R307 600	7%	
R307 601 – R614 400	4%	High Income
R614 401 – R1 228 800	0.6%	
R1 228 801 – R2 457 600	0.2%	
R2 457 601 +	0.1%	

More than half of the KMLM households have a low income, thus the majority of the population fall within the poverty level. Many social consequences, such as inability to pay for basic services are associated with low incomes. Incomes levels are analysed to establish the standard of living of the households likely to be affected by any proposed development. With the relevant information, the developers can devise means of ensuring that the community benefits from the development. Where possible the skills of the community members can be enhanced.

**Health**

According to health statistics shown in Figure 6, 5.1% of the population in Namakwa district municipality (NDM) is infected with HIV/AIDS. The numbers seem to rising year after year. Due to limited testing centres, the percentages of the infected recorded could be lower than the actual people infected (NDM, 2011-2012).



**Figure 6:** Northern Cape HIV statistics 2008-2011 (Source: The National Antenatal Sentinel HIV and Syphilis Prevalence Survey, South Africa, 2011, National Department of Health)

The Department of health within where NDM falls highlight that there are only satellite facilities staffed with three professional nurses to serve the whole district. Apart from Aggeneys, all other facilities need an urgent upgrade especially in Witbank (KMLM IDP 2012-2017). The towns are spaced, which makes it difficult

for the over worked nurses to ensure the HIV testing services are provided fully without any compromises.

### ***Households and access to services***

There are 3 796 households in the KMLM, with an average household size of 3.2 persons per household. Table 10 indicates the level of access to services found in the KMLM.

**Table 10:** Access to services (Source: Census 2011)

<b>2011</b>		<b>KMLM</b>	
<b>Water Access</b>			
Regional/local water scheme (operated by municipal or another water services provider)		69.5%	
Borehole		8.4%	
Spring		0.1%	
Rain water tank		0.2%	
Dam/Pool/Stagnant water		2.2%	
River/Stream		13.4%	
Water Vendor		0.2%	
Water Tanker		2.2%	
Other		3.6%	
<b>Sanitation Access</b>			
Flush toilet (connected to sewage system)		69%	
Flush Toilet (with septic tank)		7.8%	
Pit toilet with ventilation		11.1%	
Pit toilet without ventilation		4.4%	
Chemical toilet		0.2%	
Bucket toilet		0.8%	
Other		1.1%	
<b>Refuse Removal Access</b>			
Removed by local authority/private company at least once a week		75.6%	
Own refuse disposal		18.9%	
Removed by local authority/private company less often		4.7%	
Communal refuse dump		1.1%	
Own refuse dump		11.7%	
No rubbish disposal		2.6%	
Other		4.4%	
<b>Energy Access</b>			
	Cooking	Heating	Lighting
Electricity	84.3%	50.8%	89.6%
Gas	7.2%	1.1%	0.1%
Paraffin	0.1%	0.2%	0.7%
Solar	0.3%	0.5%	2.2%
Candles	0%	0%	7%
Wood	7.9%	26.3%	0%
Animal Dung	0%	0.1%	0%
None	0.3%	21%	0.4%



According to the KMLM IDP 2012-2017 there is a backlog of basic service delivery and improvement of existing infrastructure such as boreholes is required. The table above provides an indication of a lack of service delivery in the area. The community faces water challenges, which makes securing, increasing the capacity and saving of water sources a priority.

### ***Economic Profile***

Agricultural activities and mining are the main economic activities in the municipality. The agricultural sector includes livestock and flower bulbs farming as well as wool production. Cattle, sheep and goat rearing are the drivers of livestock farming. The Gariep river plays a critical role in the region's agricultural and alluvial diamond mining activities. The highest number of individuals in the NDM is employed within the agricultural sector; (hunting, forestry and fishing) followed by the mining and quarrying sector. Agriculture is the dominant employment sector within the district. Only a small number is employed within alternative industries. The two emerging sectors are renewable energy as well as conservation and ecological restoration.

### ***Summary of the baseline description of the local area***

The following is a summary of the key baseline findings as a result of the study conducted on the KMLM, in the Northern Cape. In summary, the area was found to have the following general characteristics and challenges within the local area:

- » poverty levels are high, due to high levels of unemployment, and increasing rates of illness (HIV/AIDS and TB);
- » communal farming on municipal peri-urban land is creating environmental challenges;
- » a large proportion of income is derived from social grants, with social consequences that are not fully understood and no proactive plans is put in place;
- » local economies of small towns in the municipal area are characterised by weak multipliers, because a great deal of purchasing power is spent in the larger centres, or metropolitan areas situated outside these areas;
- » due to the arid nature of the area, surface and underground water supplies are insufficient to provide higher levels of infrastructure (such as waterborne sanitation);
- » the conditions of life of remote settlements of farm workers tend to be poor, with low mobility, and difficult access to health, education, recreation and shopping amenities;
- » HIV/AIDS levels are reputed to be high, particularly on national transport routes, and mortality rates are already reflecting this;

- » there is an out-migration of skilled people, due to a lack of local economic opportunities;
- » increasing aridity, due to global warming, may lead to rising unemployment, declining underground water levels, and greater difficulties for commonage farmers;
- » the socio-economic conditions of the municipal area are poor. Approximately 56% of the municipal population earns less than R38 400.00 per annum (or less than R3200.00 per month) consequently receiving payment for municipal services can be challenging. This in turn can have a negative effect on the sustainability of infrastructure and the delivery of services overall; and
- » generally, the population can be regarded as having a high dependency ratio; with 7.39% of the population over the age of 65 and 25% under 15 years. The latter youth group will be demanding education, housing and jobs in the near future.

The major service providers which will be affected by the project include the local municipality and local businesses in the area. The local municipality that will be directly impacted by the proposed development will be Khai-Ma Local Municipality (ward 1). The municipality will absorb a number of social impacts (positive and negative), especially impacts related to an influx of people, since they will be responsible to deliver services to people residing within their municipal area. Negative dimensions of impacts such as influx of jobseekers into the area putting pressure on the provision of basic services and poverty level will need to be weighed.

The proposed development supports the social and economic development through enabling skills development and training in order to empower individuals and promote employment creation within the local area. The development would mainly focus on economic benefits to the area and introduce a new industry into the local economy. There are a number of local businesses in the area that could benefit from the proposed development in terms of an increase in demand for goods and services.

#### **4.2.3. Adjacent Landowners**

Apart from the area along the banks of the Gariiep river where irrigation takes place, the Khai-Ma Local Municipal area has a low agricultural potential and is characterised by livestock (sheep and cattle) farming. Majority of the study area has a low number of farmsteads that are sparsely populated. Figure 16 illustrates the adjacent landowner's location relative to the proposed site. There are seven adjacent landowners that are likely to be affected by the proposed road realignment, these include:

- » Remaining portion of Farm Vaal Koppies 80, is located north of the proposed development. Currently a secondary road (MN73) traverses the farm and

there are approximately ten buildings/dwellings located on the farm. The secondary road to north of the intersection (as part of the MN73) is tarred and is utilised by local farmers to access their agricultural farmlands located near the Gariep River. The primary activity on the farm is livestock farming, predominantly sheep. There are homesteads/ buildings located on the farm, the closest building being ~2km away.

- » Portion 1 of Farm Scuitklip 92, located east of the proposed site. Currently the tarred R357 (Onseepkans road) traverses the farm and there are approximately five buildings/ dwellings located on the farm. The farm is primarily utilised for livestock farming. The surrounding landowners raised the concern of dust caused by construction activities and an increase in traffic and abnormal loads is a serious concern. The surrounding land is used for grazing purposes and his livestock do not eat grass covered in dust. The landowner is also concerned about tremors caused by blasting that took place for the previous projects that have resulted in cracks occurring in the walls of infrastructure on his farm. The adjacent landowner also noted that the upkeep and maintenance of perimeter fencing will be required.
- » Portion 6 of Farm Konkoonsies 91 is located south west of the proposed site and there are approximately four buildings/dwellings located on the farm. Konkoonsies Solar PV plant is located on this farm. The facility is a 10MW photovoltaic solar power generation facility (see Figure 7 below).

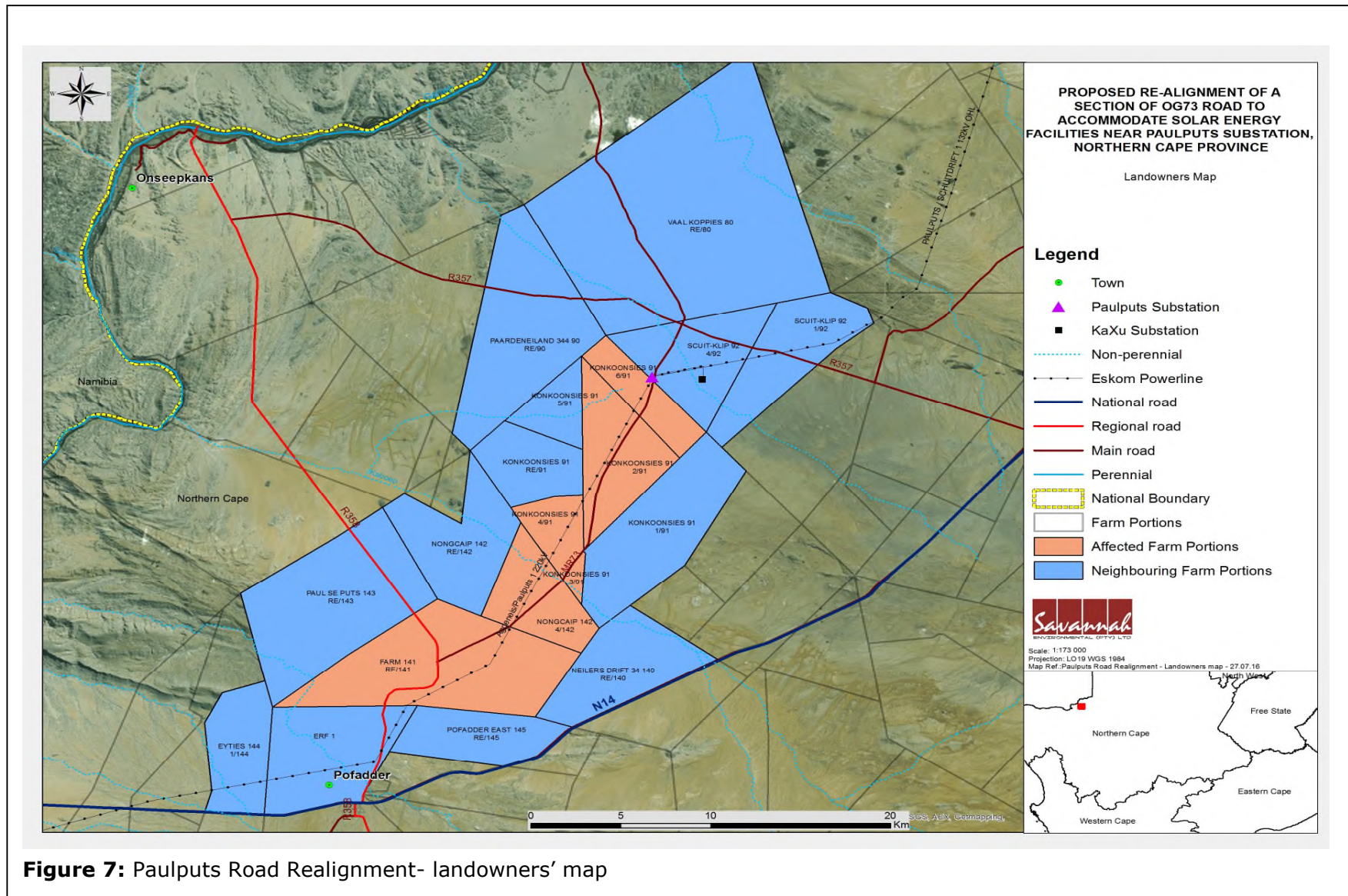


**Figure 7:** Konkoonsies Solar PV Plant on Portion 6 of Farm Konkoonsies 91  
(Source: <http://www.biothermenergy.com/blog/konkoonsies-solar-pv> )

- » Remaining portion of Farm Paardeneiland 90 is located north west of the proposed site. The R357 (Onseepkans road) traverses the site and there approximately two buildings/ dwellings on the farm, located approximately 7km south west of the proposed road realignment.
- » Portion 1 and portion 3 of Farm Konkoonsies 91, is located south of the proposed site. There is one building/dwelling on the farm. Konkoonsies II Solar Facility (75MW facility) was awarded preferred Bidder status in round 4 of the REIPPP programme which is planned to be located on this farm.
- » Portion 4 of farm Konkoonsies 91, is located south east of the proposed site.
- » Portion 2 of Farm Konkoonsies 91, is located south of the proposed site.
- » Portion 5 of Farm Konkoonsies 91, is located east of the proposed site.
- » Remaining extent of 141, (Kabas), located in the South east of the proposed site.
- » Farm portion 4 of 142, (nongcaip) located in the South of the proposed site.

Figure 8 provides an overview of the location of these adjacent farms in relation to the site. There is potential for the development to have social impacts on the surrounding landowners/ residents residing on the farms. There are a small number of farmsteads that are sparsely populated in the study region. Impacts that may arise for the farming community (either farm owners, tenants or farm workers) includes impacts on pastureland, crime, personal safety, cultural and social changes, additional traffic and road safety, noise and dust impacts, effects on the areas sense of place. There are potentially vulnerable farming activities in the study area. The primary farming activity is livestock farming and grape cultivation near the Gariep river. Impacts that may arise include stock theft from an increase of in-migrants in the area (especially during the construction phase) and dust pollution impacting grazing land. Highly sensitive social receptors include farmlands where livestock farming occurs.

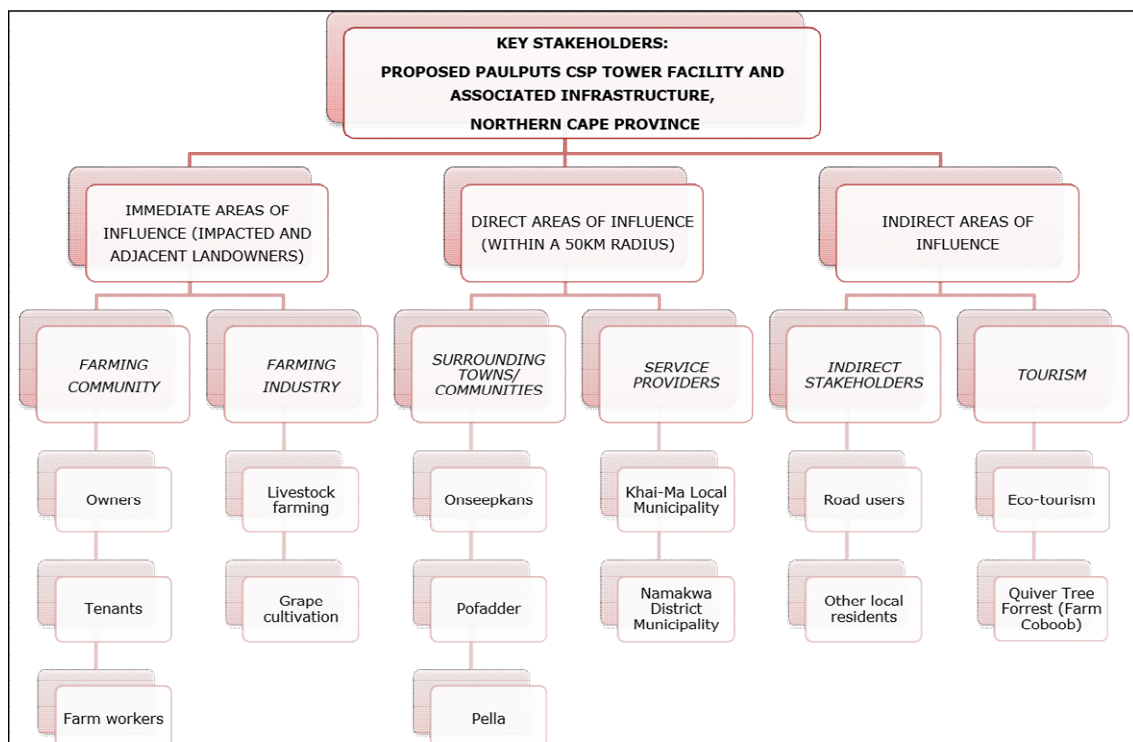




### 4.3. STAKEHOLDER IDENTIFICATION AND ANALYSIS

Stakeholders are defined as “any group or organisation which may affect or be affected by the issue under consideration (UN, 2001: 26)”. These may be directly or indirectly affected. Their participation and support is crucial for the success of the project. The stakeholders comprise of international, regional, national or local entities interested in the matter at hand. Everyone interested or affected is welcome to express their view regardless of level or position in society (Frank & Guidero, 2012).

An analysis of the community dwellers or influencers is important for the identification of the key stakeholders in the project. The first step in the stakeholder analysis process is to identify the relevant parties; determining their key grouping and sub-groupings as well as their interest in the project (IFC, 2007). This helps in clustering stakeholders and their concerns. Key stakeholders in the proposed project have been identified, grouped / sub grouped and demonstrated in Figure 9 below, though it is not an exhaustive list (as per Ilse Aucamp SIA methodology & Aucamp et al, 2011). Direct and indirect stakeholders are sensitive social receptors that may potentially be affected by the proposed development.



**Figure 8:** Key stakeholders associated with the proposed development

A description of each of the stakeholders’ group in relation to the proposed road realignment is discussed below:

- » *Farming community:* the farming community have been grouped into three categories, namely- farm owners, farm tenants and farm workers. Farm owners include farmers who own the land and make a living from their properties. Farm tenants are people who rent the land and work on the land for income. Lastly the farm workers, people who work and may also live on the farms (farm workers and their families). The farming community consists of the larger farms in the study area who may be impacted from the proposed CSP facility and the road realignment.
- » *Farming industry:* There are potentially vulnerable farming activities in the study area. There may be livestock agricultural activity and grape cultivation. Impacts that may arise include stock theft and poaching from an increase of in-migrants in the area (especially during the construction phase). Impacts may also include dust pollution on cultivated and grazing areas which may impact farming activities.
- » *Surrounding towns / affected communities:* Onseepkans, Pofadder and Pella are the closest towns to the proposed site. Residents in the towns may be positively and/or negatively affected by the proposed realignment. Employment opportunities will be available for the proposed road realignment and it is probable that some of the labour will be sourced from the local area; this will be a positive impact for the local community.
- » *Service providers:* The major service providers which will be affected by the project include the district and local municipalities and local businesses in the area. The local municipality that will be directly impacted by the proposed road realignment will be KMLM. The municipality will absorb a number of social impacts (positive and negative), impacts may relate to a marginal influx of people coming into the area, since they will be responsible to deliver services to people residing within their municipal area. There are a number of local businesses in the area that could benefit from the proposed development in terms of an increase in demand for goods and services.
- » *Indirect stakeholders:* There are a number of stakeholders that reside outside the direct area of influence but may be marginally affected by the project. These include road users that use the R358, MR357, N14 and local gravel roads on a frequent basis as part of their daily or weekly movement patterns. Construction vehicles and trucks will be utilising these roads during the construction phase, which will increase the traffic, create traffic disruptions and may increase the wear and tear on these roads.

## **5. Social Impact Assessment**

This section provides a detailed description and assessment of the potential social impacts associated with the construction and operational phases of the road realignment project.

### **5.1. CONSTRUCTION PHASE**

Impacts associated with the construction phase of a project are usually of a short duration, temporary in nature, but could have long-term effects on the surrounding social environment if not managed appropriately.

#### ***5.1.1. Direct employment and skills development***

During the realignment of the road a workforce will be needed, hence direct employment will be generated by the project. The local community will benefit as such construction is labour intensive and requires the unskilled labour. Several skilled professionals will be required. The closest towns to the development are Pofadder and Onseepkans and both have a small population. However, the district as a whole has a large economically active population in search of employment opportunities, which has a pool to tap from. The road realignment is likely to create 18 jobs (15 during construction and 3-5 during maintenance). Approximately 60% of the workforce will be sourced from the local area. This will be a positive social impact. Approximately 50% the labour force will be available to low-skilled/ semi-skilled workers, such as construction labourers, security staff. Skilled personnel such as site managers, drivers, equipment operators etc. will account for approximately 30% and the highly skilled individuals, i.e., engineers, project managers, site managers will be 20%.

The local economy will be boost by income that will be injected through wages. Another positive impact is the indirect employment opportunities that will be created through transportation and other services rendered to staff that will reside off site. The workforce will be staying in nearby towns, such as Pofadder and will be transported to and from the site on a daily basis. People in the service industry, such as those who hire out equipment, waste removal, catering and laundry service providers will also benefit during the construction phase.



**Table 11:** Impact assessment on direct temporary employment opportunities and skills development

<b>Construction Phase</b>		
<b>Nature:</b> The creation of temporary employment opportunities and skills development opportunities during the construction phase for the country and local economy		
	<b>Without enhancement</b>	<b>With enhancement</b>
<b>Extent</b>	Site only (1)	Local (2)
<b>Duration</b>	Very short duration (1)	Very short duration (1)
<b>Magnitude</b>	Small (0)	Minor (1)
<b>Probability</b>	Probable (3)	Probable (3)
<b>Significance</b>	<b>Low (6)</b>	<b>Low (9)</b>
<b>Status (positive or negative)</b>	Positive	Positive
<b>Reversibility</b>	N/A	
<b>Irreplaceable loss of resources</b>	N/A	
<b>Can impacts be enhanced</b>	Yes	
<b>Enhancement measures:</b>		
<p>In order to enhance the local employment opportunities associated with the construction phase the following measures should be implemented:</p> <ul style="list-style-type: none"> <li>» Efforts should be made to employ local contractors that are compliant with Broad Based Black Economic Empowerment (BBBEE) criteria, where possible;</li> <li>» Establish a 'labour and employment desk';</li> <li>» It is recommended that local employment policy be adopted to maximise the opportunities made available to the local labour force, especially for semi and low-skilled job categories;</li> <li>» The recruitment selection process should seek to promote gender equality and the employment of women wherever possible;</li> <li>» Develop a community labour agreement with targets for local employment;</li> <li>» It is recommended to set realistic local recruitment targets for the construction phase; and</li> <li>» Where feasible, training and skills development programmes should be initiated prior to the commencement of the construction phase.</li> </ul>		
<b>Cumulative impacts</b>		
<ul style="list-style-type: none"> <li>» Opportunity to upgrade and improve skills levels in the area</li> </ul>		
<b>Residual impacts</b>		
<ul style="list-style-type: none"> <li>» Improved pool of skills and experience in the local area</li> <li>» Temporarily employment during construction phase will result in jobs losses and struggles for construction workers to find new employment opportunities</li> </ul>		

The impact is therefore assessed to be positive; local and regional in extent; temporary in duration; of minor intensity and probable with enhancement measures followed. The impact is assessed to be of low significance to the decision- making process.

### 5.1.2. Economic multiplier effects

The KMLM community is likely to experience an increase in income due to a boost in spending. During the project life there will be spending in both local goods and services, which will be beneficial to the local economy. Through expenditure on construction related materials and equipment, accommodation for staff members and transportation services, the local economy will be enhanced though it could be for a short period. Labourers will also greatly contribute to the increase in income through purchase of various consumables.

**Table 12:** Economic multiplier effects impact assessment

<b>Construction Phase</b>		
<b>Nature:</b> Significance of the impact from the economic multiplier effects from the use of local goods and services		
	<b>Without enhancement</b>	<b>With enhancement</b>
<b>Extent</b>	Local- regional (3)	Local- regional (3)
<b>Duration</b>	Very short term (1)	Very short term (1)
<b>Magnitude</b>	Small (0)	Minor (2)
<b>Probability</b>	Probable (3)	Probable (3)
<b>Significance</b>	<b>Low (12)</b>	<b>Low (18)</b>
<b>Status (positive or negative)</b>	Positive	Positive
<b>Reversibility</b>	N/A	
<b>Irreplaceable loss of resources</b>	N/A	
<b>Can impacts be enhanced</b>	Yes	
<b>Enhancement</b>		
<ul style="list-style-type: none"> <li>» It is recommended that a local procurement policy be adopted by the developer to maximise the benefit to the local economy;</li> <li>» Where feasible, the developer should create a database of local companies, specifically historically disadvantaged (HD) which qualify as potential service providers (e.g. construction companies, waste collection companies, security companies etc.) prior to the commencement of the tender process for construction contractors; these companies should be notified of the tender process and invited to bid for project-related work where applicable;</li> <li>» It is recommended that good and services are sourced from the local area as much as possible; engage with local authorities and business organisations to investigate the possibility of procurement of construction materials, goods and products from local suppliers, where feasible; and</li> <li>» Efforts need to be employed to enhance indirect local entrepreneurship opportunities by supporting local entrepreneurs as far as possible.</li> </ul>		
<b>Cumulative impacts</b>		
<ul style="list-style-type: none"> <li>» Opportunity for local capital expenditure, potential for the local service sector; and</li> <li>» Opportunity for local entrepreneurs to develop their businesses.</li> </ul>		
<b>Residual impacts</b>		
<ul style="list-style-type: none"> <li>» Improved local service sector, growth in local business</li> </ul>		

» Economic growth for small-scale entrepreneurs

The impact is therefore assessed to be positive; local and regional in extent; temporary in duration; minor intensity; and probable if enhancement measures are implemented. The impact is assessed to be of low significance to the decision-making process.

### **5.1.3. Influx of economic opportunities seekers**

The proposed road realignment is likely to create an influx of people seeking economic opportunities. That could result in pressure on economic and social infrastructure. A rise in social conflicts or change in social dynamics could be experienced due to a mixture of different cultures, races and ethnicity groups. The high unemployment rate in the KMLM and expectations of the community created by the mere fact that a development is earmarked for their area is already a source of competition amongst locals. Having outsiders will exacerbate the situation. Influx of economic migrants could also lead to a temporary upsurge in crime and/an increase in unemployment figures due to an oversupply of labour, especially for the low to semi-skilled personnel.

The impact associated with in-migration of jobseeker includes pressure on local services and infrastructure. This includes municipal services such as sanitation, electricity, water, waste management, health facilities, transportation and availability of housing. Informal settlements may develop near towns to accommodate jobseekers. It is very difficult to control the influx of people into an area, especially in a country where there are high levels of unemployment.

**Table 13:** Assessment of impacts from influx of economic opportunity seekers

<b>Construction Phase</b>		
<b>Nature:</b> Added pressure on economic and social infrastructure and increase in social conflicts during construction as a result of in-migration of economic opportunities seekers		
	<b>Without mitigation</b>	<b>With mitigation</b>
<b>Extent</b>	Local - regional (3)	Site only (1)
<b>Duration</b>	Short-term (1)	Short-term (1)
<b>Magnitude</b>	Small to Minor (1)	Minor (2)
<b>Probability</b>	Probable (3)	Probable (3)
<b>Significance</b>	<b>Low (15)</b>	<b>Low (12)</b>
<b>Status (positive or negative)</b>	Negative	Negative
<b>Reversibility</b>	Yes	
<b>Irreplaceable loss of resources</b>	No	
<b>Can impacts be mitigated</b>	Yes	
<b>Mitigation</b>		
» Local businesses should be given priority.		
» It is recommended that local employment policy is adopted to maximise the opportunities made available to the local labour force.		

- » This 'locals first' policy should be advertised for construction employment opportunities, especially for semi and low-skilled job categories. Enhance employment opportunities for the immediate local area; Pofadder, Onseepkans and Pella, and if this is not possible, then the broader focus areas should be considered for sourcing workers such as KMLM.
- » Prior to construction commencing representatives from the local community (e.g. ward councillor, surrounding landowners) should be informed of details of the construction schedule and exact size of the workforce.
- » Recruitment of temporary workers at the gates of the development should not be allowed. A recruitment office should be established by the contractor in a nearby town to deal with jobseekers.
- » A security company is to be appointed and appropriate security procedures to be implemented.
- » Establish procedures for the control and removal of loiters at the construction site.
- » A method of communication should be implemented whereby procedures to lodge complaints are set out in order for the local community to express any complaints or grievances with the construction process. The EPC contractor should appoint a designated staff member to implement grievance procedures and address issues and complaints. A Public Complaints register must be maintained, by the contractor and monitored by the ECO, to record all complaints and queries relating to the project and the action taken to resolve the issue.

**Cumulative impacts:**

Cumulative impacts and change to the local economy with an in-migration of labourers and jobseekers to the area will be local, long-term and probable.

**Residual impacts**

Possibility of outside workers or businesses people remaining in the area after construction is completed and subsequent pressures on local infrastructure and services

The impact is assessed to be negative; local in extent; temporary in duration; minor intensity; and probable with the implementation of the mitigation measures. The impact is assessed to be of low significance to the decision-making process.

**5.1.4. Nuisance impacts (noise, dust, and wear and tear of roads)**

During the road realignment project adjacent properties will be affected by noise from trucks and construction equipment. However, as much as noise levels are audible over a large distance, it tends to be for a short duration. Dust is the biggest concern for the adjacent landowners as the grazing land will be affected. In previous construction activities, people have lost their livestock due to compromised vegetation as a result of excessive dust, and insufficient feedstock being available for the sheep to graze. The potential impacts could be addressed by implementing the relevant mitigating measures. Heavy construction vehicle could also lead to damages to both regional and internal access roads.

Noise, vibrations and pollution from heavy vehicle traffic during the construction phase could cause temporary disruptions in daily living, movement patterns and quality of life for the local community.

**Table 14:** Assessment of nuisance impacts

<b>Construction Phase</b>		
<b>Nature:</b> Nuisance impacts in terms of temporary increase in noise and dust, or the wear and tear on access roads to the site		
	Without mitigation	With mitigation
<b>Extent</b>	Site only (1)	Site only (1)
<b>Duration</b>	Very short duration (1)	Very short duration (1)
<b>Magnitude</b>	Low (4)	Minor (2)
<b>Probability</b>	Probable (3)	Probable (3)
<b>Significance</b>	<b>Low (18)</b>	<b>Low (12)</b>
<b>Status (positive or negative)</b>	Negative	Negative
<b>Reversibility</b>	Yes	
<b>Irreplaceable loss of resources</b>	No	
<b>Can impacts be mitigated</b>	Yes	
<b>Mitigation</b>		
The potential impacts associated with construction and heavy vehicles can be effectively mitigated. The mitigation measures include:		
<ul style="list-style-type: none"> <li>» The movement of heavy vehicles associated with the construction phase should be timed to avoid weekends, public holidays and holiday periods where feasible;</li> <li>» The contractor must ensure that any damage / wear and tear caused by construction related traffic to the roads utilised are repaired before the completion of the construction phase;</li> <li>» Dust suppression measures must be implemented for heavy vehicles;</li> <li>» All vehicles must be road-worthy and drivers must be qualified and made aware of the potential road safety issues and need for strict speed limits;</li> <li>» Communication, complaints and grievance channels must be implemented and contact details provided to all impacted and adjacent landowners in the study area.</li> </ul>		
<b>Cumulative impacts</b>		
<ul style="list-style-type: none"> <li>» If damage to roads is not repaired, then this will affect other road users and result in higher maintenance costs for vehicles of road users.</li> <li>» Other construction activities in area will heighten the nuisance impacts, such as noise, dust and wear and tear on roads.</li> </ul>		
<b>Residual impacts</b>		
Only damage to roads that are not fixed could affect road users.		

The impact is assessed to be negative; local in extent; temporary in duration; minor in intensity; and probable with mitigation. The impact is assessed to be of low significance to the decision-making process.

#### **5.1.5. Safety and security impacts**

An increase in crime is often associated with construction activities. The perceived loss of security during the construction phase of the proposed project due to the influx of workers and/ or outsiders to the area (as in-migration of newcomers, construction workers or jobseekers are usually associated with an increase in crime), may have indirect effects such as increased safety and security issues for neighbouring properties and damage to property, increase risk of veld fire, stock theft, poaching, crime and so forth. However, construction staff will not be housed on site. Overnight worker presence will be limited to security personnel.

Apart from construction crew that poses a potential increased risk there may also be an influx of people looking for economic opportunities. Safety and security impacts are a reality in South Africa that needs to be addressed through appropriate mitigation measures. Majority of the impacted and adjacent farm owners utilise their farms for livestock farming and crop farming. Hence most of them have indicated a security concern as livestock has been lost in previous years.

**Table 15:** Assessment of safety and security impacts

<b>Construction Phase</b>		
<b>Nature:</b> Temporary increase in safety and security concerns associated with the influx of people during the construction phase		
	<b>Without mitigation</b>	<b>With mitigation</b>
<b>Extent</b>	Site only (1)	Site only (1)
<b>Duration</b>	Very short duration (1)	Very short duration (1)
<b>Magnitude</b>	Low (4)	Low (4)
<b>Probability</b>	Probable (3)	Improbable (2)
<b>Significance</b>	<b>Low 18)</b>	<b>Low (12)</b>
<b>Status (positive or negative)</b>	Negative	Negative
<b>Reversibility</b>	Yes	
<b>Irreplaceable loss of resources</b>	No	
<b>Can impacts be mitigated</b>	Yes	
<b>Mitigation</b>		
<ul style="list-style-type: none"> <li>» Employing local community members could minimise the potential for criminal activity or perceived perception of an increase in criminal activity due to the presence of an outside workforce and influx of newcomers into the area;</li> <li>» Working hours should be kept between 6am and 6pm during the construction phase, and/or as any deviation that is approved by the relevant authorities;</li> <li>» The contractor must ensure that open fires on the site for heating, smoking or cooking are not allowed except in designated areas;</li> <li>» Contractor must provide adequate firefighting equipment on site and provide firefighting training to selected construction staff;</li> <li>» A comprehensive employee induction programme would cover land access protocols, fire management and road safety. This must be addressed in the construction EMPR as the best practice;</li> <li>» The contractor should have personnel trained in first aid on site to deal with smaller incidents that require medical attention; and</li> </ul>		

» Method of communication should be implemented whereby local landowners can express any complaints or grievances with the construction process.
<b>Cumulative impacts</b> Possible increase in crime levels (with influx of people) with subsequent possible economic losses
<b>Residual impacts</b> None anticipated

The impact is assessed to be negative; local in extent; temporary in duration; low in intensity and improbable with mitigation measures. Overall, the impact is assessed to be of low significance to the decision making process.

### 5.1.6. Traffic Impact Assessment

The total development traffic for the construction for the road and the CSP facility is dispersed over a wide road network and over a period of three years and is insignificant, apart from abnormal load vehicles that are not peculiar to the road network and that are subject to a specific permit/approvals process. On occasion, as a worst case scenario, some 21 heavy vehicles might arrive on a day outside of peak hours. This is an insignificant number of vehicles that will be dispersed on the road network. The site staff related traffic will arrive from a number of routes and is dispersed over the wider road network and consequently will have low traffic impact. Low background traffic volumes will be accommodated with ease, both on the road network and at the site accesses.

**Table 13:** Assessment of traffic impacts

<b>Construction Phase</b>		
<b>Nature:</b> Temporary increase in traffic, probable traffic disruptions and increased safety risks for road users		
	<b>Without mitigation</b>	<b>With mitigation</b>
<b>Extent</b>	Site only (1)	Site only (1)
<b>Duration</b>	Very Short (1)	Very Short (1)
<b>Magnitude</b>	Low (4)	Minor to Low (3)
<b>Probability</b>	Probable (3)	Improbable (2)
<b>Significance</b>	<b>Low (18)</b>	<b>Low (10)</b>
<b>Status (positive or negative)</b>	Negative	Negative
<b>Reversibility</b>	Yes	
<b>Irreplaceable loss of resources</b>	No	
<b>Can impacts be mitigated</b>	Yes	
<b>Mitigation</b>		
» Construction traffic should be distributed throughout the day, which will minimise the impact on the existing traffic patterns.		
» Road signs warning of construction vehicle activity needs to be erected for the construction phase; and		
» Abnormal Load Permits being obtained for transport of abnormal loads as and when		

required.
<b>Cumulative impacts</b> Possible increase in traffic disruptions, increased heavy vehicle traffic and safety risks/hazards for road users
<b>Residual impacts</b> None anticipated

The impact is assessed to be negative; local in extent; temporary in duration; low in intensity and probable with mitigation measures. Overall, the impact is assessed to be of low significance to the decision making process.

## 5.2. OPERATION PHASE: REDUCED SAFETY HAZARDS & INCREASED BENEFITS FOR THE ROAD USERS

Once the MN73 road is realigned, the Department of Roads and Public Works will maintain the section of road and the road reserve. The Department will be responsible for any operation and maintenance activities of the road. The potential social impacts which could arise as a result of the operation/maintenance of the proposed road realignment include; reduced safety hazards (i.e. glint and glare from heliostat field) and increased benefits for the road users. Maintenance of the road surface will be undertaken by the NC DR&PW and should include fixing of potholes, management of erosion etc.

Currently, the road traverses the development footprint of the authorised Paulputs CSP facility. If the road is not realigned, there will be significant safety hazards and incidents in the area. Therefore, the realignment will be beneficial to the community as the hazards will be reduced. Also the development of the CSP facility will increase economic opportunities for the local community which will in the long run extend to the district and provincial level. Eventually contribute to the betterment of the national economy.

**Table 14:** Assessment of the reduced safety hazards and benefits

<b>Operational Phase</b>		
<b>Nature:</b> There will be an increase in safety due to the newly realigned road that does not traverse the heliostat field of the authorised Paulputs CSP Facility, which also decreases the risk of glint and glare and distraction on drivers. The realigned road will also create economic opportunities for the local area.		
	<b>Without enhancement</b>	<b>With enhancement</b>
<b>Extent</b>	Local (2)	Local (2)
<b>Duration</b>	Long term (4)	Long term (4)
<b>Magnitude</b>	Moderate (6)	Moderate (6)
<b>Probability</b>	Probable (3)	Highly probable (4)
<b>Significance</b>	<b>Medium (36)</b>	<b>High (48)</b>
<b>Status (positive or</b>	Positive	Positive



<b>negative)</b>	
<b>Reversibility</b>	Yes
<b>Irreplaceable loss of resources</b>	No
<b>Can impacts be enhanced</b>	No
<b>Enhancement</b>	
<ul style="list-style-type: none"> <li>» Cognisance be taken of building lines applicable in terms of Act 21 of 1940;</li> <li>» Engagement and involvement of the local municipality (KMLM) with social responsibility plans; and</li> <li>» Ensure that the real needs of communities are addressed and in line with the local government.</li> </ul>	
<b>Cumulative impacts</b>	
Reduce safety hazards, increase flow of traffic and strengthening transport linkages	
<b>Residual impacts</b>	
None anticipated	

The impact is assessed to be positive; local - national in extent; long term; of moderate intensity; and highly probable. The impact is of high significance to the decision-making process.

### 5.3. 'DO-NOTHING' OPTION:

The impacts of pursuing the 'do-nothing' alternative are both positive and negative as follows:

- » The benefits would be that there is no disruption from increased traffic, traffic disruptions and safety risks during construction, nuisance impacts (noise and dust during construction) and safety and security impacts;
- » There would also be an opportunity loss in terms of job creation, skills development, associated economic business opportunities for the local economy and improved safety, reduced hazards and mobility;
- » If the 'do-nothing' option is pursued it will have a negative impact on the Paulputs CSP project if awarded preferred bidder status, this will have a knock on effect in terms of economic opportunities for the area.

Foregoing the proposed realignment of the MN73 road would compromise the Paulputs Concentrated Solar Power (CSP) Project. Improvement of safety, reduced hazards and increased mobility for road users on the MN73 would also be lost as well as the socio-economic benefits for local communities during the construction phase would be forfeited.

## 6. Conclusion and Recommendations

The SIA has primarily focused on the collection of primary data to identify and assess social issues and potential social impacts. Secondary data was collected and presented in a literature review and primary data was collected through consultations with key stakeholder and the public participation process. The environmental assessment framework for assessment of impacts and the relevant criteria were applied to evaluate the significance of the potential impacts. A summary of the potential positive and negative impacts identified in the SIA for the construction and operation phase are presented in Tables 18 and 19 below.

**Table 15:** Summary of social impacts during construction phase

<b>CONSTRUCTION PHASE</b>		
<b>Impact</b>	<b>Significance Without Mitigation/ enhancement</b>	<b>Significance With Mitigation/ enhancement</b>
<b>Positive Impacts</b>		
<i>Direct employment and skills development</i>	Low (6)	Low (9)
<i>Economic multiplier effects</i>	Low (12)	Low (18)
<b>Negative Impacts</b>		
<i>Influx of economic opportunities seekers</i>	Low (15)	Low (12)
<i>Nuisance impacts (Noise, dust, wear and tear on roads)</i>	Low (18)	Low (12)
<i>Safety and security risks</i>	Low (18)	Low (12)
<i>Traffic impacts</i>	Low (18)	Low (10)

**Table 16:** Summary of social impacts during operation phase

<b>OPERATION PHASE</b>		
<b>Impact</b>	<b>Significance Without Mitigation/ Enhancement</b>	<b>Significance With Mitigation/ Enhancement</b>
<b>Positive Impact</b>		
<i>Reduced safety hazards and increased benefits for road users and economic opportunities</i>	Medium (36)	Medium (48)

### **Key findings**

Construction phases are traditionally associated with social impacts. Many of the social impacts are unavoidable and will take place; therefore, the management of

social impacts is more important. Negative and positive social impacts have been identified. The assessment of the key issues indicated that there are no negative impacts that can be classified as fatal flaws. Positive impacts can be enhanced by implementing appropriate enhancement measures and careful planning. Based on the social impact assessment, the following general conclusions and findings can be made:

- » The potential negative social impacts associated with the construction phase are typical of construction related projects and not just focussed on the construction of realignment of the MN73 (these relate to influx of non-local workforce and jobseekers, intrusion and disturbance impacts, noise and dust, wear and tear on roads and safety and security risks) and could be reduced with the implementation of the mitigation measures proposed;
- » The development will introduce a small number of employment opportunities during the construction phase (temporary employment);
- » The proposed project could assist the local economy in creating entrepreneurial growth and opportunities, especially if local business is involved in the provision of general material, goods and services during the construction phase; and
- » The proposed realignment will also facilitate the development of the Paulputs CSP facility for improved electricity capacity in the Northern Cape as well as other solar energy facilities, at the same time providing a gateway for greater economic opportunities nationally.

### ***Recommendations***

The following recommendations are made on the basis of the Social Impact Assessment and a thorough review of the concerns and suggestions raised by stakeholders and interested and affected parties during the stakeholder engagement process. The proposed mitigation measures should be implemented to limit the negative impacts and enhance the positive impacts. Based on the social assessment, the following recommendations are made:

- » If feasible, the appointment of a community liaison officer to assist with the management of social impacts and to deal with community issues.
- » In terms of employment related impacts, it is important to reserve the low-skilled and semi-skilled job opportunities for the local people to avoid provoking discontent and putting pressure on basic services;
- » Local procurement of services and equipment where possible in order to enhance the multiplier effect;
- » Involve the community in the process as far as possible (encourage co-operative decision making and partnerships with local entrepreneurs);
- » Implement mitigation measures to reduce and avoid negative impacts;
- » Employ mitigation measures to minimise the dust and noise pollution; and

- » Safety and security risks should be taken into account during the planning/construction phase of the proposed project to reduce the risk of crime in the area.

### ***Overall Conclusion***

The proposed road realignment is unlikely to result in permanent damaging social impacts. The project is very important if the authorised Paulputs CSP facility are to developed. Such a facility will increase the electricity capacity in the Northern Cape, which will be good for business. Safety of people is also a critical measure that should be taken into account prior to development of the project. The key stakeholders indicated a positive response to the proposed project as it is envisaged that it will generate positive impacts in the long run. In conclusion, from a social perspective the proposed realignment can go ahead subject to the implementation of the recommended mitigation measures contained in this report.

## REFERENCES

- Aucamp, I.C., Woodbourne, S., Perold, J.J., Bron, A. and Aucamp, S.-M. 2011. Looking beyond social impact assessment to social sustainability. In Vanclay, F. and Esteves, A.-M. *New Directions for Social Impact Assessments*, Cheltenham, UK: Edward Elgar.
- Becker, HA and Vanclay, F. 2003: *The International Handbook of Social Impact Assessment: Conceptual and Methodological Advances*. London: Edward Elgar.
- Census 2011 Community Profiles Database. Statistics South Africa.
- Department of Water and Sanitation (DWS). (2016). Onseepkans. Available from: [https://www.dwa.gov.za/orange/low\\_orange/onseep.aspx](https://www.dwa.gov.za/orange/low_orange/onseep.aspx)
- Franke, V. & Guidero, A. 2012. Engaging local stakeholder: A Conceptual Model for Effective Donor- Community Collaboration. *Institute for Homeland Security Solutions*.
- IFC. 2007. *Stakeholder Engagement: A Good Practice Handbook for Companies Doing Business in Emerging Markets*. International Finance Corporation: Washington.
- Interorganizational Committee on Principles and Guidelines for Social Impact Assessment. US Principles and Guidelines – Principals and guidelines for social impact assessment in the USA. *Impact Assessment and Project Appraisal*, 21(3): 231-250.
- Khai-Ma Local Municipality Integrated Development Plan (2012-2017)
- National Environmental Management Act 107 of 1998 (NEMA)
- National Development Plan (2030)
- Namakwa District Municipality Annual Report (2011-2012).
- Namakwa District Municipality Environmental Management Framework (EMF) and Strategic Environmental Management Plan (SEMP) (2011)
- Namakwa District Municipality Integrated Development Plan (2013-2014/2012-2016)
- Namakwa District Municipality Local Economic Development Strategy (LED) (2009)

Northern Cape Provincial Development and Resource Management Plan / Provincial Spatial Development Framework (PSDF) (2012)

Northern Cape Provincial Growth and Development Strategy (NCPGDS) (2011)

Northern Cape Provincial Local Economic Development Strategy (LED) (2009)

State of the Environment Report (SOER). 2005. Northern Cape Province. Department of Tourism, Environment and Conservation. CSIR Environmental.

Statistics South Africa. (2014). Education: A Roadmap out of poverty? Available from: <http://beta2.statssa.gov.za/?p=2566>

The Constitution Act 108 of 1996

United Nations Economic and Social Commission for Asia and the Pacific (UN). (2001). Guidelines for Stakeholders: Participation in Strategic Environmental Management.

Vanclay, F. 2003. Conceptual and methodological advances in Social Impact Assessment. In Vanclay, F. & Becker, H.A. 2003. The International Handbook for Social Impact Assessment. Cheltenham: Edward Elgar Publishing Limited.

## APPENDIX A: SIA ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPR)

### Construction Phase

#### *Direct employment and skills development*

#### **OBJECTIVE: Maximise local employment and skills opportunities associated with the construction phase**

<b>Project component/s</b>	Construction of the proposed realignment of the MN73 road	
<b>Potential Impact</b>	The opportunities and benefits associated with the creation of local employment and skills development to be maximised.	
<b>Activity/risk source</b>	<ul style="list-style-type: none"> <li>» Construction procurement practice employed by the EPC contractor</li> <li>» Developers investment plan</li> </ul>	
<b>Enhancement: Target/Objective</b>	The developer should aim to employ as many low-skilled and semi-skilled workers from the local area as possible. This should also be made a requirement for all contractors.	
<b>Enhancement: Action/control</b>	<b>Responsibility</b>	<b>Timeframe</b>
» Employ local contractors that are compliant with Broad Based Black Economic Empowerment (BBBEE) criteria.	The Proponent & EPC Contractor	» Pre-construction and construction phase
» Adopt a local employment policy to maximise the opportunities made available to the local labour force.	The Proponent & EPC Contractor	» Pre-construction and construction phase
» The recruitment selection process is to promote gender equality and the employment of women wherever possible.	EPC Contractor	» Pre-construction and construction phase
» Set realistic local recruitment targets for the construction phase.	The Proponent & EPC Contractor	» Pre-construction and construction phase
» Training and skills development programmes to be initiated prior to the commencement of the construction phase.	The Proponent	» Pre-construction and construction phase
<b>Performance Indicator</b>	<ul style="list-style-type: none"> <li>» Employment and business policy document that sets out local employment and targets completed before construction phase commences;</li> <li>» Employ as many local semi and low skilled labour as possible.</li> <li>» Training and skills development programme undertaken prior to the commencement of construction phase.</li> </ul>	
<b>Monitoring</b>	» The developer and EPC contractor must keep a record of local recruitments and information on local labour to be shared with the ECO for reporting purposes.	

#### *Economic multiplier effects*

#### **OBJECTIVE: Maximise the local economic multiplier effect during construction phase**

<b>Project component/s</b>	Construction of the proposed realignment of the MN73 road		
<b>Potential Impact</b>	Potential local economic benefits		
<b>Activity/risk source</b>	Developers procurement plan		
<b>Enhancement: Target/Objective</b>	Increase the procurement of goods and services especially within the local economy		
<b>Enhancement: Action/control</b>	<b>Responsibility</b>	<b>Timeframe</b>	
» Adopt a local procurement policy to maximise the benefits to the local economy.	» The Proponent & EPC Contractor	» Pre-construction and construction phase	
» Develop a database of local companies, specifically Historically Disadvantaged (HD) which qualify as potential service providers (e.g. construction companies, security companies, catering companies, waste collection companies, transportation companies etc.) prior to the tender process and invite them to bid for project-related work.	» The Proponent & EPC Contractor	» Pre-construction and construction phase	
» Source goods and services from the local area, where these are available. Engage with local authorities and business organisations to investigate the possibility of procurement of construction materials, goods and products from local suppliers.	» The Proponent	» Pre-construction and construction phase	
<b>Performance Indicator</b>	<ul style="list-style-type: none"> <li>» Local procurement policy is adopted</li> <li>» Local goods and services are purchased from local suppliers where feasible</li> </ul>		
<b>Monitoring</b>	» The developer must monitor indicators listed above to ensure that they have been met for the construction phase.		

*Safety and security impacts*

**OBJECTIVE: To avoid or reduce the possibility of the increase in crime and safety and security issues during the construction phase**

<b>Project component/s</b>	Construction of the proposed realignment of the MN73 road
<b>Potential Impact</b>	Increase in crime due to influx of non-local workforce and job seekers into the area and increase in traffic due to an increase in construction vehicles; property damage, loss of assets on nearby properties, road safety
<b>Activity/risk source</b>	The presence of construction workers on the site can pose a potential safety risk to local farmers and communities and may result in stock thefts or illegal hunting/ trapping of fauna and or game. The activities of construction workers may also result in damage to farm infrastructure.



<b>Mitigation:</b>	To avoid or minimise the potential impact on local communities and their livelihoods		
<b>Target/Objective</b>			
<b>Mitigation: Action/control</b>	<b>Responsibility</b>	<b>Timeframe</b>	
» Working hours should be kept to daylight hours during the construction phase, and/or as any deviation that is approved by the adjacent landowners.	» EPC contractor	» Construction phase	
» Local community organisations and policing forums / neighbourhood watches must be informed of construction times and the duration of the construction phase.	» The Proponent & EPC contractor	» Pre-construction phase & Construction phase	
» Security lighting is to be implemented	» EPC contractor	» Pre-construction phase & Construction phase	
» Security personnel is to be on site on a permanent basis	» EPC contractor	» Pre-construction phase & Construction phase	
» No open fires are permitted on site and construction personnel must be made aware of the consequences of starting a fire on site to avoid damage to neighbouring farms.	» EPC contractor	» Construction phase	
» Contractor must provide adequate fire-fighting equipment on site and provide fire-fighting training to selected construction staff.	» EPC contractor	» Pre-construction phase & Construction phase	
» A comprehensive employee induction programme to be developed and utilised to cover land access protocols, fire management and road safety	» EPC contractor	» Pre-construction phase & Construction phase	
» All vehicles must be road worthy and drivers must be qualified and made aware of the potential road safety issues as well as follow the speed limits	» EPC contractor	» Pre-construction phase & construction phase	
<b>Performance Indicator</b>	<ul style="list-style-type: none"> <li>» Employee induction programme, covering land access protocols, fire management and road safety</li> <li>» The construction site is appropriately secured with a controlled access system</li> <li>» Security personnel on site on a permanent basis</li> </ul>		

<b>Monitoring</b>	» The developer and EPC contractor must monitor the indicators listed above to ensure that they have been met for the construction phase
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*Impacts from an in migration of people*

**OBJECTIVE: Reduce the pressure on economic and social infrastructure and social conflicts from an influx of a non-local workforce and jobseekers during the construction phase**

<b>Project component/s</b>	Construction of the proposed realignment of the MN73		
<b>Potential Impact</b>	Decline on local economic and social infrastructure and services as well as a rise in social conflicts from an influx of a non-local workforce and jobseekers		
<b>Activity/risk source</b>	Influx of migrant workers and jobseekers		
<b>Mitigation: Target/Objective</b>	To avoid or minimise the potential impact on local infrastructure, services and communities and their livelihoods		
<b>Mitigation: Action/control</b>	<b>Responsibility</b>	<b>Timeframe</b>	
» Implement a 'locals first' policy for construction jobs, specifically for semi and low-skilled job categories.	» The Proponent & EPC contractor	» Pre and construction phase	
<b>Performance Indicator</b>	» Percentage of the workers employed in construction that come from local communities		
<b>Monitoring</b>	» The developer must keep a record of local recruitments and information on local labour to be shared with the ECO for reporting purposes		

*Nuisance impacts (Noise, dust, wear & tear on roads)*

**OBJECTIVE: To avoid or minimise the potential impacts of noise, dust and damage to roads caused by construction vehicles during the construction phase**

<b>Project component/s</b>	Construction of the proposed realignment of the MN73		
<b>Potential Impact</b>	Heavy vehicles can generate noise and dust impacts. Movement of heavy vehicles can also damage roads.		
<b>Activity/risk source</b>	Construction activities		
<b>Mitigation: Target/Objective</b>	To avoid and or minimise the potential noise and dust impacts associated with construction activities and heavy vehicles and also minimise damage to roads		
<b>Mitigation: Action/control</b>	<b>Responsibility</b>	<b>Timeframe</b>	
» The movement of heavy vehicles associated with the construction phase must be timed to avoid weekends and holiday periods, where feasible	» EPC Contractor	» Construction phase	
» Ensure that damage caused by construction related traffic to the existing roads is repaired	» EPC Contractor	» Construction phase	

	before the completion of the construction phase.		
	» Implement dust suppression measures for heavy vehicles such as wetting the roads on a regular basis.	» EPC Contractor	» Construction phase
	» Ensure all vehicles are road worthy, drivers are qualified and are made aware of the potential noise and dust issues	» EPC Contractor	» Construction phase
	» Ensure that drivers adhere to speed limits	» EPC Contractor	» Construction phase
	» Implement a grievance and communication system for community issues and appoint community liaison officer	» The Proponent & EPC contractor	» Pre-construction and construction phase
<b>Performance Indicator</b>	<ul style="list-style-type: none"> <li>» Dust suppression measures implemented for all heavy vehicles that require such measures during the construction phase</li> <li>» Enforcement of strict speeding limits</li> <li>» Road worthy certificates in place for all vehicles</li> <li>» Community liaison officer available for community grievances and communication channel</li> </ul>		
<b>Monitoring</b>	<ul style="list-style-type: none"> <li>» The EPC contractor must monitor the indicators to ensure that they have been met for the construction phase</li> </ul>		

**APPENDIX B: MINUTES OF MEETINGS DURING SIA STAKEHOLDER  
CONSULTATION PROCESS**



**ENVIRONMENTAL IMPACT ASSESSMENT  
PROCESS  
PAULPUTS ROAD REALIGNMENT PROJECT  
NORTHERN CAPE PROVINCE**

**PUBLIC PARTICIPATION PROCESS**

**BA PHASE**

**LANDOWNER CONSULTATION  
H. STEENEKAMP, NONGCAIP 4/142  
HELD ON  
15 AUGUST 2016**

**Telephone Discussion**

***Savannah Environmental (Pty) Ltd***

**Contact:** Gabriele Wood

**Address:** PO Box 148  
Sunninghill, 2157

**Tel:** 011 656 3237

**Fax:** 086 684 0547

**E-mail:** gabriele@savannahsa.com

**Notes for the Record prepared by:  
Savannah Environmental**

Please address any comments to Gabriele Wood at the above address.

## RECORD OF TELEPHONE DISCUSSION

**To:** Harmse Steenekamp (HS)  
**Company:** Adjacent Landowner  
**From:** Thalita Botha

Thalita Botha of Savannah Environmental contacted Mr Steenekamp to inform him that Savannah Environmental is undertaking the Basic Assessment process for the realignment of the MN73 for the construction of the Paulputs CSP Facility and that a meeting with him was scheduled for the 17<sup>th</sup> August 2016. Thalita then explained that Savannah Environmental is in the process of conducting the Social Impact Assessment and that the purpose for the meeting is to determine how the project will impact him and he's daily activities. Thalita then asked if he is comfortable to have a telephone discussion on possible social impacts to be triggered by the realignment of the MN73 road, or if he would prefer a face-face meeting already scheduled. Mr Steenekamp informed her that he is comfortable with having a telephone discussion as they already had a meeting with Savannah people for the CSP facility.

Thalita explained that the realignment will only take place on the Farm Scuitklip 4/92 and that the road will be longer by an additional 2km and then the discussion started.

### DISCUSSION SESSION

Question / Comment	Response
TB: Do you reside on the farm?	HS: No one lives on the farm at the moment.
TB: What activities are currently taking place on your farm?	HS: The farm is utilised for sheep farming.
TB: Do you travel along the section of the MN73 road, and how often?	HS: I use the road on a daily basis to visit the farm.
TB: Do you have any safety and security concerns during the realignment process?	HS: No.
TB: After the realignment of the road, there could be adjustments in accessing your farm or river, will this inconvenience you?	HS: The realignment will not affect me, but the value of my farm might decrease during the construction phase.
TB: Do you have any concerns with safety and security during the realignment process?	HS: I do not have any concerns regarding safety and security as my property is fenced off.

Question / Comment	Response
<p>TB: There will be an increase in traffic from the construction vehicles and trucks on the national road and the internal access road. Is this a concern for you and would this interrupt any of your daily movement patterns?</p>	<p>HS: I do not mind the increase in traffic, but then the developer will need to upgrade the sections of the MN73 being used by construction vehicles as the road is already in a terrible condition and will get even worse with the increase in traffic.</p>
<p>TB: There will be normal construction noise and dust from the development. Would the noise and dust have any impact on your day-to-day activities or lifestyle?</p>	<p>HS: My farm is situated approximately 20km away, therefore noise and dust will not affect me.</p>
<p>TB: Do you foresee the proposed alignment of the road having an effect/impact on your farming activities?</p>	<p>HS: None.</p>
<p>TB: Do you have any other questions or social concerns?</p>	<p>HS: My only concern is that utilisation the MN73 by construction vehicles may lead to the deterioration of the road.</p>
<p>TB: Are you in support of the realignment of the MN73 road?</p>	<p>HS: I do not have a problem with the realignment of the road.</p>

Thalita then thanked Mr Steenekamp for the inputs which were provided, and notified him that if he has any other questions regarding the road realignment, he is welcome to contact Savannah Environmental.



**ENVIRONMENTAL IMPACT ASSESSMENT  
PROCESS  
PAULPUTS ROAD REALIGNMENT PROJECT  
NORTHERN CAPE PROVINCE**

**PUBLIC PARTICIPATION PROCESS**

**BA PHASE**

**LANDOWNER CONSULTATION  
W. MARAIS, KONKOONSIES 4/91  
HELD ON  
15 AUGUST 2016**

**Telephone Discussion**

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**Notes for the Record prepared by:**

**Savannah Environmental**

Please address any comments to Gabriele Wood at the above address.

## RECORD OF TELEPHONE DISCUSSION

**To:** Willem Marais (WM)  
**Company:** Adjacent Landowner  
**From:** Thalita Botha

Thalita Botha of Savannah Environmental contacted Mr Marias to inform him that Savannah Environmental is undertaking the Basic Assessment process for the realignment of the MN73 for the construction of the Paulputs CSP Facility. She also informed him that the realignment will only take place on the Farm Scuitklip 4/92 and that the road will be longer by an additional 2km. Thalita then explained Savannah Environmental is in the process of conducting the Social Impact Assessment and that the purpose for the call is to determine how the project will impact him and his daily activities. Thalita then asked if he is comfortable to have a telephone discussion to discuss the possible social impacts regarding the proposed realignment of the MN73 road, or if he would prefer a face-face meeting.

Mr Marais informed her that he is comfortable with having a telephone discussion, hence Thalita and Mr Marais proceeded with the discussion.

### DISCUSSION SESSION

Question / Comment	Response
TB: Do you reside on the farm?	WM: No one lives on the farm at the moment. We live in Pofadder and I drive to the farm on a daily basis.
TB: What activities are currently taking place on your farm?	WM: The farm is currently used for sheep and cattle farming.
TB: Do you travel along the section of the MN73 road, and how often?	WM: I use the road on a daily basis to visit the farm.
TB: Do you have any safety and security concerns during the realignment process?	WM: None.
TB: After the realignment of the road, there could be adjustments in accessing your farm or river, will this inconvenience you?	WM: These solar renewable energy projects bring many advantages to the area and therefore the realignment will not inconvenience me.
TB: Do you have any concerns with safety	WM: I do not have any concerns regarding



Question / Comment	Response
and security during the realignment process?	security and safety.
TB: There will be an increase in traffic from the construction vehicles and trucks on the national road and the internal access road. Is this a concern for you and would this interrupt any of your daily movement patterns?	WM: I do not live on the farm and therefore an increase in traffic will not really have an impact on me.
TB: There will be normal construction noise and dust from the development. Would the noise and dust have any impact on your day-to-day activities or lifestyle?	WM: Noise and dust will not affect me as my farm is situated approximately 20km away.
TB: Do you foresee the proposed alignment of the road having an effect/impact on your farming activities?	WM: I do not foresee that the realignment of the road will have an impact on my farming activities.
TB: Do you have any other questions or social concerns?	WM: None.
TB: Are you in support of the realignment of the MN73 road?	WM: I do not have a problem with the realignment of the road.

Thalita then thanked Mr Marais for the inputs which were provided, and notified him that if he has any other questions regarding the road realignment, he is welcome to contact Savannah Environmental.



**ENVIRONMENTAL IMPACT ASSESSMENT  
PROCESS**

**PAULPUTS ROAD REALIGNMENT PROJECT**

**NORTHERN CAPE PROVINCE**

**PUBLIC PARTICIPATION PROCESS**

**BA PHASE**

**LANDOWNER CONSULTATION**  
**J. S. HENNING, VAAL KOPPIES RE/80**  
**HELD ON**  
**17 AUGUST 2016**

**Telephone Discussion**

***Savannah Environmental (Pty) Ltd***

**Contact:** Gabriele Wood

**Address:** PO Box 148  
Sunninghill, 2157

**Tel:** 011 656 3237

**Fax:** 086 684 0547

**E-mail:** gabriele@savannahsa.com

**Notes for the Record prepared by:**

**Savannah Environmental**

Please address any comments to Gabriele Wood at the above address.

## RECORD OF TELEPHONE DISCUSSION

**To:** Jenetta Sophia Henning (JSH)  
**Company:** Adjacent Landowner  
**From:** Thalita Botha

Thalita Botha of Savannah Environmental contacted Ms Henning inform her that Savannah Environmental is undertaking the Basic Assessment process for the realignment of the MN73 for the construction of the Paulputs CSP Facility. She also informed him that the realignment will only take place on the Farm Scuitklip 4/92 and that the road will be longer by an additional 2km. Thalita then explained Savannah Environmental is in the process of conducting the Social Impact Assessment and that the purpose for the call is to determine how the project will impact him and he's daily activities. Thalita then asked if she is comfortable discussing the social impacts that may come with the realignment of the MN73 road, or if she would prefer a face-face meeting. Mrs Henning informed her that she is comfortable with having a telephone discussion she does not live on the farm but in Lambert's Bay.

Thalita explained that the realignment will only take place on the Farm Scuitklip 4/92 and that the road will be longer by an additional 2km and then proceeded discuss the social issues:

### DISCUSSION SESSION

Question / Comment	Response
TB: Do you reside on the farm?	JSH: No, there were tenants previously on the farm but now we utilise the farm only during holidays.
TB: What activities are currently taking place on your farm?	JSH: The farm is not utilised for any farming activities, but there is some free roaming game.
TB: Do you travel along the section of the MN73 road, and how often?	JSH: I only use the road on holidays when my family and I visit the farm.
TB: After the realignment of the road, there could be adjustments is accessing your farm or river, will this inconvenience you?	JSH: I do not live on the farm permanently; therefore, the realignment will not inconvenience me.
TB: Do you have any concerns with safety and security during the realignment process?	JSH: I do not have any concerns regarding security and safety as there is nothing at risk on the farm.

Question / Comment	Response
TB: There will be an increase in traffic from the construction vehicles and trucks on the national road and the internal access road. Is this a concern for you and would this interrupt any of your daily movement patterns?	JSH: I do not mind the increase in traffic as I do not live on the farm permanently.
TB: There will be normal construction noise and dust from the development. Would the noise and dust have any impact on your day-to-day activities or lifestyle?	JSH: The farmhouse is situated approximately 7km from the MN73 road and therefore dust and noise will not affect us.
TB: Do you foresee the proposed alignment of the road having an effect/impact on your farming activities?	JSH: I do not mind the realignment of the MN73 road as I utilise R357 (Onseepkans road) to access the farm and not the MN73.
TB: Do you have any other questions or social concerns?	JSH: No.
TB: Are you in support of the realignment of the MN73 road?	JSH: I do not have a problem with the realignment of the road.

## WAY FORWARD AND CLOSURE

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Thalita then thanked Mrs Henning for the inputs which were provided, and notified her that if she has any other questions regarding the road realignment, she is welcome to contact Savannah Environmental.

## RECORD OF TELEPHONE DISCUSSION

**To:** Helien Pennedeeg (HP)  
**Company:** Adjacent Landowner  
**From:** Thalita Botha

Thalita Botha of Savannah Environmental contacted Mrs Pennedeeg inform her that Savannah Environmental is undertaking the Basic Assessment process for the realignment of the MN73 for the construction of the Paulputs CSP Facility. She also informed him that the realignment will only take place on the Farm Scuitklip 4/92 and that the road will be longer by an additional 2km. Thalita then explained Savannah Environmental is in the process of conducting the Social Impact Assessment and that the purpose for the call is to determine how the project will impact him and he's daily activities. Thalita then asked if she is comfortable discussing the social impacts that may come with the realignment of the MN73 road telephonically, or if she would prefer a face-face meeting. Mrs Henning informed her that she is comfortable with having a telephone discussion.

Thalita explained that the realignment will only take place on the Farm Scuitklip 4/92 and that the road will be longer by an additional 2km and then proceeded discuss the social issues.

### DISCUSSION SESSION

Question / Comment	Response
TB: Do you reside on the farm?	HP: My son and I currently lives on the farm.
TB: What activities are currently taking place on your farm?	HP: The farm is currently utilised for game farming (Gemsbokke and Kudus). We used to keep sheep in previous years, but there has been a 6-year drought.
TB: Do you travel along the section of the MN73 road, and how often?	HP: I travel on that road every day.
TB: Do you have any safety and security concerns during the realignment process?	HP: No.
TB: After the realignment of the road, there could be adjustments is accessing your farm or river, will this inconvenience you?	HP: No, the realignment will not inconvenience me.
TB: Do you have any concerns with safety	HP: Theft of game will be an issue for us.

Question / Comment	Response
and security during the realignment process?	
TB: There will be an increase in traffic from the construction vehicles and trucks on the national road and the internal access road. Is this a concern for you and would this interrupt any of your daily movement patterns?	HP: Traffic is not a concern.
TB: There will be normal construction noise and dust from the development. Would the noise and dust have any impact on your day-to-day activities or lifestyle?	HP: My concern is dust on the grass and plants as the animals refuse to eat grass and plants with accumulated dust on it. The noise is not a problem as the farmhouse is approximately 14km from the road.
TB: Do you foresee the proposed alignment of the road having an effect/impact on your farming activities?	HP: I do not have any other concerns apart from the accumulation of dust on the grass and the security of game.
TB: Do you have any other questions or social concerns?	HP: No.
TB: Are you in support of the realignment of the MN73 road?	HP: I do not have a problem with the realignment of the road.

## WAY FORWARD AND CLOSURE

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Thalita then thanked Mrs Pennedeeg for the inputs which were provided, and notified her that if she has any other questions regarding the road realignment, she is welcome to contact Savannah Environmental.

## RECORD OF TELEPHONE DISCUSSION

**To:** Elize Swart  
**Farm:** Vaal koppies 80  
**Company:** Adjacent Landowner  
**From:** Thalita Botha

Thalita Botha of Savannah Environmental contacted Mrs Swart to inform her that Savannah Environmental is undertaking the Basic Assessment process for the realignment of the MN73 for the construction of the Paulputs CSP Facility. Thalita then explained that Savannah Environmental is in the process of conducting the Social Impact Assessment and that the purpose for the call is to determine how the project will impact her and her daily activities. Thalita then asked if she is comfortable discussing the social impacts that may come with the realignment of the MN73 road telephonically, or if she would prefer a face-face meeting. Mrs Swart indicated that she was comfortable with having a telephone discussion.

Thalita explained that the realignment will only take place on the Farm Scuitklip 4/92 and that the road will be longer by an additional 2km and then the discussed proceeded.

### DISCUSSION SESSION

Question / Comment	Response
TB: Do you reside on the farm?	ES: There were tenants previously on the farm but currently my family and I utilises the farm during holidays. We are planning to lease out the farm as soon the drought passes and the soil had time to recover.
TB: What activities are currently taking place on your farm?	ES: There are no farming activities due to the drought, but there is some free roaming game.
TB: Do you travel along the section of the MN73 road, and how often?	ES: Only on holidays when we visit the farm
TB: Do you have any safety and security concerns during the realignment process?	ES: The farm was previously utilised for sheep farming but we had several incidences regarding theft that was especially high during the construction of Xina Solar One. If the road is to be constructed, provision will

Question / Comment	Response
	have to be made to protect livestock against theft, especially as we are planning to farm sheep in the future.
TB: After the realignment of the road, there could be adjustments in accessing your farm or river, will this inconvenience you?	ES: I do not live on the farm permanently and I mostly use the Onseepkans road when visiting the farm.
TB: There will be an increase in traffic from the construction vehicles and trucks on the national road and the internal access road. Is this a concern for you and would this interrupt any of your daily movement patterns?	ES: I am worried because the increase in traffic will definitely increase the chance of sheep being run over as this was previously experienced during the construction of Xina Solar One.
TB: There will be normal construction noise and dust from the development. Would the noise and dust have any impact on your day-to-day activities or lifestyle?	ES: When dust accumulates on the grass and plants, the sheep does not eat it. This will affect the farm as we are planning to utilise the farm for sheep grazing. We will not be affected by construction noise.
TB: Do you have any other questions or social concerns?	ES: I do not have any concerns other than the issues already raised.
TB: Are you in support of the realignment of the MN73 road?	ES: I do not have a problem with the realignment of the road.

## WAY FORWARD AND CLOSURE

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Thalita then thanked Mrs Swart for the inputs which were provided, and notified her that if she has any other questions regarding the road realignment, she is welcome to contact Savannah Environmental.





**ENVIRONMENTAL IMPACT ASSESSMENT  
PROCESS**

**PAULPUTS ROAD REALIGNMENT PROJECT**

**NORTHERN CAPE PROVINCE**

**PUBLIC PARTICIPATION PROCESS**

**BA PHASE**

**LANDOWNER CONSULTATION**

**F. VAN DER HEEVER, KABAS RE/141**

**HELD ON**

**22 AUGUST 2016**

**Telephone Discussion**

***Savannah Environmental (Pty) Ltd***

**Contact:** Gabriele Wood

**Address:** PO Box 148  
Sunninghill, 2157

**Tel:** 011 656 3237

**Fax:** 086 684 0547

**E-mail:** gabriele@savannahsa.com

**Notes for the Record prepared by:**

**Savannah Environmental**

Please address any comments to Gabriele Wood at the above address.

## RECORD OF TELEPHONE DISCUSSION

**To:** F. van der Heever (PVH)  
**Company:** Adjacent Landowner  
**From:** Thalita Botha

Thalita Botha of Savannah Environmental contacted Mr van der Heever inform him that Savannah Environmental is undertaking the Basic Assessment process for the realignment of the MN73 for the construction of the Paulputs CSP Facility. She also informed him that the realignment will only take place on the Farm Scuitklip 4/92 and that the road will be longer by an additional 2km. Thalita then explained Savannah Environmental is in the process of conducting the Social Impact Assessment and that the purpose for the call is to determine how the project will impact him and he's daily activities. Thalita then asked if he is comfortable discussing the social impacts that may come with the realignment of the MN73 road telephonically, or if he would prefer a face-face meeting. Mr van der Heever indicated that he was comfortable with having a telephone discussion.

### DISCUSSION SESSION

Question / Comment	Response
TB: Do you reside on the farm?	FVH: Ten people currently resides on the farm, including myself and four farm workers.
TB: What activities are currently taking place on your farm?	FVH: The farm is utilised for livestock (sheep, cattle and pigs) and game farming.
TB: Do you have any cultivated land?	FVH: The farm is only used for livestock farming and there are no cultivated land on the farm.
TB: Do you travel along the section of the MN73 road, and how often?	FVH: I travel on the MN73 road daily to Pofadder.
TB: After the realignment of the road, there could be adjustments is accessing your farm or river, will this inconvenience you?	FVH: No, it will not inconvenience me.
TB: Do you have any concerns with safety and security during the realignment process?	FVH: I live close to the area where the realignment is proposed, so I am concerned about theft of game and livestock.
TB: There will be an increase in traffic from	FVH: The increase in traffic will not have an

Question / Comment	Response
<p>the construction vehicles and trucks on the national road and the internal access road. Is this a concern for you and would this interrupt any of your daily movement patterns?</p>	<p>impact on me, but I am worried that the quality of the road will deteriorate.</p>
<p>TB: There will be normal construction noise and dust from the development. Would the noise and dust have any impact on your day-to-day activities or lifestyle?</p>	<p>FVH: I am very concerned about dust as during the construction of KaXu Solar One, which is located in the Portion 4 of the Farm Scuitklip 2, animals died due to the increase in dust.</p>
<p>TB: Do you foresee the proposed alignment of the road having an effect/impact on your farming activities?</p>	<p>FVH: During construction, I am worried that there will be theft of game and livestock as well as the accumulation of dust on the grass.</p>
<p>TB: Do you have any other questions or social concerns?</p>	<p>FVH: I do not have any other concerns, other than the ones raised already.</p>
<p>TB: Are you in support of the realignment of the MN73 road?</p>	<p>FVH: I do not mind the realignment of the MN73 road.</p>

## WAY FORWARD AND CLOSURE

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Thalita then thanked Mr van der Heever for the inputs which were provided, and notified him that if he has any other questions regarding the road realignment, he is welcome to contact Savannah Environmental.



**ENVIRONMENTAL IMPACT ASSESSMENT  
PROCESS  
PAULPUTS ROAD REALIGNMENT PROJECT  
NORTHERN CAPE PROVINCE**

**PUBLIC PARTICIPATION PROCESS**

**BA PHASE**

**LANDOWNER CONSULTATION  
E. MARKRAM, KONKOONSIES 2 (91)  
HELD ON  
22 AUGUST 2016**

**Telephone Discussion**

***Savannah Environmental (Pty) Ltd***

**Contact:** Gabriele Wood

**Address:** PO Box 148  
Sunninghill, 2157

**Tel:** 011 656 3237

**Fax:** 086 684 0547

**E-mail:** gabriele@savannahsa.com

**Notes for the Record prepared by:**

**Savannah Environmental**

Please address any comments to Gabriele Wood at the above address.

## RECORD OF TELEPHONE DISCUSSION

**To:** Erik Markram (EM)  
**Company:** Adjacent Landowner  
**From:** Thalita Botha

Thalita Botha of Savannah Environmental contacted Mr Markram to confirm if he is the landowner of Konkoonsies 2/91 and to inform him that Savannah Environmental is undertaking the Basic Assessment process for the realignment of the MN73 for the construction of the Paulputs CSP Facility. She also informed him that the realignment will only take place on the Farm Scuitklip 4/92 and that the road will be longer by an additional 2km. Thalita then explained Savannah Environmental is in the process of conducting the Social Impact Assessment and that the purpose for the call is to determine how the project will impact him and his daily activities. Thalita then asked if he was comfortable with a telephone discussion, or if he would prefer a face-face meeting. Mr Markram informed Thalita that they could proceed with a telephonic engagement.

### DISCUSSION SESSION

Question / Comment	Response
TB: Do you reside on the farm?	EM: No one lives on the farm.
TB: What activities are currently taking place on your farm?	EM: The farm is used for livestock (sheep and cattle) farming.
TB: Do you travel along the section of the MN73 road, and how often?	EM: On a daily basis.
TB: After the realignment of the road, there could be adjustments in accessing your farm or river, will this inconvenience you?	EM: The realignment of the road does not inconvenience me.
TB: Do you have any concerns with safety and security during the realignment process?	EM: No.
TB: There will be an increase in traffic from the construction vehicles and trucks on the national road and the internal access road. Is this a concern for you and would this interrupt any of your daily movement patterns?	EM: The increase in traffic will not have an impact on me, but I have concerns regarding the maintenance of the road. The road should be maintained regularly if it is utilised for the construction of the Paulputs CSP Project.

Question / Comment	Response
TB: There will be normal construction noise and dust from the development. Would the noise and dust have any impact on your day-to-day activities or lifestyle?	EM: My biggest concern is dust, as animals will not eat grass and plants that have accumulated dust.
TB: Do you foresee the proposed alignment of the road having an effect/impact on your farming activities?	EM: The dust on the grass and plants might affect my farming activities.
TB: Do you have any other questions or social concerns?	EM: I do not have any concerns other than the issues already raised.
TB: Are you in support of the realignment of the MN73 road?	EM: I do not have a problem with the realignment of the road.

## **WAY FORWARD AND CLOSURE**

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Thalita then thanked Mr Markram for the inputs which were provided, and notified him that if he has any other questions regarding the road realignment, he is welcome to contact Savannah Environmental.



**ENVIRONMENTAL IMPACT ASSESSMENT  
PROCESS**

**PAULPUTS ROAD REALIGNMENT PROJECT**

**NORTHERN CAPE PROVINCE**

**PUBLIC PARTICIPATION PROCESS**

**BA PHASE**

**LANDOWNER CONSULTATION**  
**W. BURGER, PAARDENEILAND RE/90**  
**HELD ON**  
**25 AUGUST 2016**

**Telephone Discussion**

***Savannah Environmental (Pty) Ltd***

**Contact:** Gabriele Wood

**Address:** PO Box 148  
Sunninghill, 2157

**Tel:** 011 656 3237

**Fax:** 086 684 0547

**E-mail:** gabriele@savannahsa.com

**Notes for the Record prepared by:**

**Savannah Environmental**

Please address any comments to Gabriele Wood at the above address.

## RECORD OF TELEPHONE DISCUSSION

**To:** Willem Burger (WB)  
**Company:** Adjacent Landowner  
**From:** Thalita Botha

Thalita Botha of Savannah Environmental contacted Mr Burger inform him that Savannah Environmental is undertaking the Basic Assessment process for the realignment of the MN73 for the construction of the Paulputs CSP Facility. She also informed him that the realignment will only take place on the Farm Scuitklip 4/92 and that the road will be longer by an additional 2km. Thalita then explained Savannah Environmental is in the process of conducting the Social Impact Assessment and that the purpose for the call is to determine how the project will impact him and he's daily activities. Thalita then asked if he is comfortable to answer several questions on the phone, or if he would prefer that a meeting be set up.

Mr Burger informed her that he had a meeting previously with a lady from Savannah Environmental and she did explain the project to him, therefore he is comfortable with answering questions on the phone and that there is no need to set-up another meeting. Thalita and Mr Burger then proceeded with the engagement.

### DISCUSSION SESSION

Question / Comment	Response
TB: Do you reside on the farm?	WB: No one currently resides on the farm. I live in Pofadder.
TB: What activities are currently taking place on your farm?	WB: I utilise the farm for livestock farming (sheep and cattle).
TB: Do you have any cultivated land?	WB: There are no cultivated land and the farm and the farm is only utilised for livestock farming.
TB: Do you travel along the section of the MN73 road, and how often?	WB: I do travel on that road daily as I visit my farm.
TB: After the realignment of the road, there could be adjustments in accessing your farm or river, will this inconvenience you?	WB: No, it will not inconvenience me.
TB: Do you have any concerns with safety and security during the realignment process?	WB: No, I do not have any concerns, as my farm is not directly situated next to MN73 road.



Question / Comment	Response
TB: There will be an increase in traffic from the construction vehicles and trucks on the national road and the internal access road. Is this a concern for you and would this interrupt any of your daily movement patterns?	WB: No, the increase in traffic will not affect me.
TB: There will be normal construction noise and dust from the development. Would the noise and dust have any impact on your day-to-day activities or lifestyle?	WB: I not have concerns regarding noise or dust.
TB: Do you foresee the proposed alignment of the road having an effect/impact on your farming activities?	WB: No, my farming activities will not be impacted on by the realignment.
TB: Do you have any other questions or social concerns?	WB: No.
TB: Are you in support of the realignment of the MN73 road?	WB: I do not have a problem with the realignment of the road.

## WAY FORWARD AND CLOSURE

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Thalita then thanked Mr Burger for the inputs which were provided, and notified him that if he has any other questions regarding the road realignment, he is welcome to contact Savannah Environmental.



**ENVIRONMENTAL IMPACT ASSESSMENT  
PROCESS**

**PAULPUTS ROAD REALIGNMENT PROJECT**

**NORTHERN CAPE PROVINCE**

**PUBLIC PARTICIPATION PROCESS**

**BA PHASE**

**LANDOWNER CONSULTATION**  
**P. VAN DER HEEVER, KABAS RE/141**  
**HELD ON**  
**25 AUGUST 2016**

**Telephone Discussion**

***Savannah Environmental (Pty) Ltd***

**Contact:** Gabriele Wood

**Address:** PO Box 148  
Sunninghill, 2157

**Tel:** 011 656 3237

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**E-mail:** gabriele@savannahsa.com

**Notes for the Record prepared by:**

**Savannah Environmental**

Please address any comments to Gabriele Wood at the above address.

## RECORD OF TELEPHONE DISCUSSION

**To:** P. van der Heever (PVH)  
**Company:** Adjacent Landowner  
**From:** Thalita Botha

Thalita Botha of Savannah Environmental contacted Mr Heever inform him that Savannah Environmental is undertaking the Basic Assessment process for the realignment of the MN73 for the construction of the Paulputs CSP Facility. She also informed him that the realignment will only take place on the Farm Scuitklip 4/92 and that the road will be longer by an additional 2km. Thalita then explained Savannah Environmental is in the process of conducting the Social Impact Assessment and that the purpose for the call is to determine how the project will impact him and he's daily activities. Thalita then asked Mr Heever was comfortable to have telephone discussion, or if he would prefer a face-face meeting, regarding the possible social issues that the road realignment project could trigger. Mr Heever expressed comfort with a telephone discussion and the engagement proceeded.

### DISCUSSION SESSION

Question / Comment	Response
TB: Do you reside on the farm?	PVH: No one currently resides on the farm.
TB: What activities are currently taking place on your farm?	PVH: Livestock farming (sheep and cattle).
TB: Do you have any cultivated land?	PVH: The farm is only used for livestock farming.
TB: Do you travel along the section of the MN73 road, and how often?	PVH: I travel the MN73 road on a daily basis.
TB: After the realignment of the road, there could be adjustments in accessing your farm or river, will this inconvenience you?	PVH: No, it will not inconvenience me.
TB: Do you have any concerns with safety and security during the realignment process?	PVH: Theft of livestock is a problem in the area and this might increase with an increase in people.
TB: There will be an increase in traffic from the construction vehicles and trucks on the national road and the internal access road. Is this a concern for you and would this	PVH: The increase in traffic will not disrupt my movement patterns but the traffic will definitely increase dust. Soil erosion is another major issue that will need to be

Question / Comment	Response
<p>interrupt any of your daily movement patterns?</p> <p>A soil and agricultural study was undertaken during the EIA process for the Paulputs CSP facility and it was concluded that the impact of soil erosion will be of low significance with the implementation of mitigation measures.</p>	<p>addressed. When the specialists conduct their site visits, the specialist considering soil erosion should visit me as I can advise on the areas which are more prone to erosion.</p>
<p>TB: Do you foresee the proposed alignment of the road having an effect/impact on your farming activities?</p>	<p>PVH: I do not foresee impacts in my farming activities except for the increase in theft.</p>
<p>TB: Do you have any other questions or social concerns?</p>	<p>PVH: I do not have any other concerns, other than the concerns raised already.</p>
<p>TB: Are you in support of the realignment of the MN73 road?</p>	<p>PVH: I do not mind the realignment of the MN73 road, but these kind of projects have negative impacts on the environment such as soil erosion.</p>

## WAY FORWARD AND CLOSURE

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Thalita then thanked Mr van der Heever for the inputs which were provided, and notified him that if he has any other questions regarding the road realignment, he is welcome to contact Savannah Environmental.

**APPENDIX C: DECLARATION OF INDEPENDENCE**



**environmental affairs**

Department:  
Environmental Affairs  
REPUBLIC OF SOUTH AFRICA


**DETAILS OF SPECIALIST AND DECLARATION OF INTEREST**

	(For official use only)
File Reference Number:	
NEAS Reference Number:	DEAT/EIA/
Date Received:	

Application for authorisation in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended and the Environmental Impact Assessment Regulations, 2010

**PROJECT TITLE**

Realignment of a section of the MN73 to accommodate solar energy facilities near Paulputs Substation, Northern Cape Province
--

Specialist:	Pamela S. Sidambe		
Contact person:	Pamela Sidambe		
Postal address:	PO Box 148, Sunninghill		
Postal code:	2157	Cell:	
Telephone:	(011) 656 3237	Fax:	086 684 0547
E-mail:	pamela@savannahsa.com		
Professional affiliation(s) (if any)			

Project Consultant:	Savannah Environmental (Pty) Ltd		
Contact person:	Karen Jodas		
Postal address:	PO Box 148, Sunninghill		
Postal code:	2157	Cell:	
Telephone:	(011) 656 3237	Fax:	086 684 0547
E-mail:	<a href="mailto:Karen@savannahsa.com">Karen@savannahsa.com</a>		

4.2 The specialist appointed in terms of the Regulations\_

I, Pamela Sidambe, declare that --

General declaration:

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



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Signature of the specialist:

*Savannah Environmental (Pty) Ltd*

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Name of company (if applicable):

29 August 2016

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Date:

## SIA SPECIALIST CV

### CURRICULUM VITAE

**Pamela S. Sidambe**

Profession : Social Consultant  
Specialisation : Social Impact Assessments (SIA)  
Years' experience : 12 years

#### KEY RESPONSIBILITIES

Specific responsibilities as a Social Consultant involve social research, community and household profiling, baseline data analysis, conducting field research, stakeholder engagement, socio-economic assessments, analysis of data and communicating the results. This includes managing and coordinating the Social Impact Assessment (SIA) process and compiling SIA reports in line with the country's guidelines and legislation.

#### SKILLS BASE AND CORE COMPETENCIES

- Social Impact Assessments (SIAs);
- Social Impact Management Plans;
- Socio-Economic Baseline Studies;
- Community needs analysis and profiling;
- Community development facilitation;
- EIA legislation;
- Public participation process;
- Project administration and management;
- Stakeholder engagement and management; and
- Research, report writing and presentation of results.

#### EDUCATION AND PROFESSIONAL STATUS

##### Degrees:

- MA in Social Impact Assessment, University of Johannesburg (2016)
- Honours Development Studies, University of South Africa (2011)
- BA in Community Development, University of South Africa (2009)

##### Courses:

- Certificate in HIV/Aids Care and Counselling. University of South Africa (UNISA) (2007).
- Diploma in Community Development. Association of Business Managers and Administrators (ABMA), United Kingdom (UK) (2006).
- Certificate in Systemic Family Counselling. Institute of Systemic

Therapy/CONNECT (2005).

## **EMPLOYMENT**

- July 2016 – date: Savannah Environmental (Pty) Ltd.; Social Consultant
- July 2013 to June 2016: Part-time Socio-Economic Consultant
- May 2010 to June 2013: CHOC Childhood Cancer Foundation; Divisional Assistant
- May 2009 to April 2010: BKS Engineering; Document Management Officer
- January 2004 to May 2007: Outreach Development Management; Project Manager

## **SYNOPSIS OF PROJECT EXPERIENCE**

### ***Social Impact Assessment Reports:***

- September 2016: Specialist SIA report for the proposed Orkney Solar Farm Project and associated infrastructure, North West.
- August 2016: Specialist SIA report for the proposed Noupoort CSP Project and associated infrastructure, Umsobomvu, Northern Cape.
- August 2016: Specialist SIA report for the proposed 10MW Scuitdrift Solar Energy facility, near Augrabies, Northern Cape.
- August 2016: Specialist SIA report for the proposed road realignment project, Pofadder, Northern Cape.
- August 2016: Specialist SIA report for the proposed industrial development, Kuruman, Northern Cape.
- August 2016: Specialist SIA report for the proposed Solar Reserve Kotulotsatsi PV Facility & associated infrastructure near Kenhardt, Northern Cape.
- July, 2016. Specialist SIA study for the proposed 400kV power line, Ilanga, Northern Cape Province.
- July 2016: Specialist SIA report for the proposed Saldanha Bay strengthening project, Western Cape.
- July 2016: Specialist social scoping study for the proposed Karoshoek Solar Valley Development- Power line, near Upington, Northern Cape Province (for FG Emvelo (Pty) Ltd);
- July 2016: Specialist SIA report for EIA process for the proposed Karoshoek Solar Valley Development- Power line, near Upington, Northern Cape Province (for FG Emvelo (Pty) Ltd); and
- July 2014: Specialist Socio-Economic Assessment for the proposed Cultural Precinct in Sandton, Gauteng Province.



### **Experience in Community Projects**

- Community asset profiling and needs analysis;
- Stakeholder profiling, partnership building and stakeholder management;
- Strategy development, policy reviews and development;
- Facilitating community involvement and participation in planning and implementation of development projects;
- Project conceptualisation, planning and implementation management; and
- Data collection, impacts analysis and recommending mitigation measures;
- Programme and project performance Monitoring and Evaluation.



## **EXTERNAL REVIEWER'S CV**

### **Details and Experience of Independent Consultant**

#### **Qualifications:**

University of South Africa: B.A. (Honours) – 1984

Henley Management College, United Kingdom: The Henley Post-Graduate Certificate in Management – 1997

Rand Afrikaans University: M.A. (cum laude) – 1999

Rand Afrikaans University: D. Lit. et Phil. – 2000

#### **Projects:**

The SIA for the Gautrain Rapid Rail Link; The impact assessment for the Australian – South African sports development programme; SIA for Kumba Resources, Sishen South Project; Evaluation of a Centre for Violence Against Women for The United Nations Office on Drugs and Crime; SIAs for the following Exxaro Resources Ltd.'s mines, Leeuwan Coal Mine Delmas, Glen Douglas Dolomite Mine Henley-on-Klip, Grootegeluk Open Cast Coal Mine Lephalale; SIA for the South African National Road Agency Limited (SANRAL) on Gauteng Freeway Improvement Project (GFIP); SIA for SANRAL on the N2 Wild Coast Toll Highway; Research into research outputs of the University for the University of Johannesburg; SIA for Waterfall Wedge housing and business development in Midrand Gauteng; SIA for the Environmental Management Plan for Sedibeng District Municipality; Social and Labour Plan for the Belfast Project on behalf of Exxaro Resources Ltd; SIA for the Transnet New Multi-Product Pipeline (Commercial Farmers) on behalf of Golder Associates Africa (Pty) Ltd; SIA for the Proposed Vale Moatize Power Plant Project in Mozambique on behalf of Golder Associates Africa (Pty) Ltd; SIA for Kumba Resources Ltd.'s proposed Dingleton Resettlement Project at Sishen Iron Ore Mine on behalf of Water for Africa (Pty) Ltd; SIA for Gold Fields West Wits Project for EcoPartners; SIA for the Belfast Project for Exxaro Resources Ltd; SIA for Eskom Holdings Ltd.'s Proposed Ubertas 88/11kV Substation on behalf of KV3 Engineers (Pty) Ltd; SIA for the Mokolo and Crocodile River (West) Water Augmentation Project (MCWAP) for the Department of Water Affairs on behalf of Nemaï Consulting and the Trans Caledonian Water Authority; Assisted Octagon Consulting with the SIA for Eskom's Nuclear 1 Power Plant on behalf of Arcus GIBB Engineering & Science. SIA for the 150MW Photovoltaic Power Plant and Associated Infrastructure for Italgest Energy (Pty) Ltd, on behalf of Kalahari Survey Solutions cc. SIA for Eskom Holdings Limited, Transmission Division's Neptune-Poseidon 400kV Power Line on behalf of Nemaï Consulting. Ncwabeni Off-Channel Storage Dam for security of water supply in Umzumbe, KwaZulu-Natal. Social Impact assessment for Eskom Holdings Limited, Transmission Division, Forskor-Merensky 275kV±130km Powerline and Associated Substation Works in Limpopo Province. Social impact assessment for the proposed infilling of the Model Yacht Pond at Blue Lagoon, Stiebel Place,

Durban. ABC Prieska Solar Project; Proposed 75 MWp Photovoltaic Power Plant and its associated infrastructure on a portion of the remaining extent of ERF 1 Prieska, Northern Cape. Sekoko Wayland Iron Ore, Molemole Local Municipalities in Limpopo Province. Langpan Chrome Mine, Thabazimbi, Limpopo; Jozini Nodal Expansion Implementation Project, KwaZulu-Natal, on behalf of Nema Consulting; SIA for Glen Douglas Dolomite Burning Project, Midvaal Gauteng, on behalf of Afrimat Limited; SIA for Lyttelton Dolomite Mine Dolomite Burning Project, Marble Hall Limpopo on behalf of Afrimat Limited. Tubatse Strengthening Phase 1 – Senakangwedi B Integration for Eskom Transmission on behalf of Nsovo Environmental Consulting; Department of Water and Sanitation, South Africa (2014). Environmental Impact Assessment for the Mzimvubu Water Project: Social Impact Assessment DWS Report No: P WMA 12/T30/00/5314/7.

Regularly lecture in the Department of Sociology at the University of Johannesburg and collaborated with Prof. Henk Becker of Utrecht University, the Netherlands, in a joint lecture to present the Social Impact Assessment Masters course via video link between the Netherlands and South Africa and regularly lecture on this course. Presented papers on Social Impact Assessments at both national and international seminars. Published on both a national and international level.

**Affiliation:**

The International Association for Impact Assessment Southern Africa.

Registered on the database for scientific peer review of iSimangaliso GEF project outputs.