



mineral resources

Department:
Mineral Resources
REPUBLIC OF SOUTH AFRICA

APPLICATION FORM FOR ENVIRONMENTAL AUTHORISATIONS IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 AND THE NATIONAL ENVIRONMENTAL MANAGEMENT WASTE ACT, 2008 IN RESPECT OF LISTED ACTIVITIES THAT HAVE BEEN TRIGGERED BY APPLICATIONS IN TERMS OF THE MINERAL AND PETROLEUM RESOURCES DEVELOPMENT ACT, 2002 (MPRDA) (AS AMENDED).

IMPORTANT NOTICE

Kindly note that:

1. As from 8 December 2014, this document serves as the application form, and incorporates the requisite documents that are to be submitted together with the application for the necessary environmental authorisations in terms of the said Acts.
2. This application form is applicable while the Mineral and Petroleum Resources Development Amendment Act of 2008 is in effect, as the form may require amendment should the Act be further amended.
3. Applicants are required to apply for the necessary water use licence and any other authorisations nor licences to the relevant competent authorities as required by the relevant legislation. Upon acceptance of an application for a right or permit in terms of the MPRDA, applicants will be required to provide evidence to the Regional Manager that a water use licence has been applied for.
4. The Regional Manager will respond to the application and provide the reference and correspondence details of the Competent Authority, and in the event that the application for a right or permit is accepted, together with the date by which the relevant environmental reports must be submitted. Notwithstanding anything that may appear to be stated to the contrary in the acceptance letter, the timeframes are in fact aligned and the prescribed timeframes for the submission of documents as regulated by the NEMA regulations must be strictly adhered to.
5. The application must be typed within the spaces provided in the form. The sizes of the spaces provided are not necessarily indicative of the amount of information to be provided. Spaces are provided in tabular format and will extend automatically when each space is filled with typing.
6. The failure to submit complete information as required in this application form may result in the refusal of the application for an environmental authorisation and consequently of the right or permit applied for.
7. This application must be submitted through the SAMRAD online application system of the Department of Mineral Resources under "Other documents to upload".
8. Unless protected by law, all information filled in on this application form will become public information on receipt by the competent authority. Any interested and affected party should and shall be provided with the information contained in this application on request, during any stage of the application process.
9. Please note that an application fee is payable in terms of the National Environmental Management Act and the National Waste Management Act, which fees must be paid upon lodgement of the application. Should the said application fees not be paid as prescribed the application for a right or permit in terms of the Mineral and Petroleum Resources Development Act cannot be considered to have been made in the prescribed manner and the said application for a right or permit will have to be rejected. In this regard the type of applications must be identified in the table below.

PLEASE STATE TYPE OF AUTHORISATIONS BEING APPLIED FOR.

APPLICATION TYPE	APPLICABLE FEE	Mark with an X where applicable
NEMA S&EIR application on its own	R10 000.00	<input type="checkbox"/>
NEMA BAR application on its own	R 2 000.00	<input checked="" type="checkbox"/>
NEMWA S&EIR application on its own	R10 000.00	<input type="checkbox"/>
NEMWA BAR application on its own	R 2 000.00	<input type="checkbox"/>
NEMA S&EIR application combined with NEMWA S&EIR application	R 15 000.00	<input type="checkbox"/>
NEMA BAR application combined with NEMWA BAR application	R 3 000.00	<input type="checkbox"/>
NEMA S&EIR application combined with NEMWA BAR application	R 11 000.00	<input type="checkbox"/>

1. CONSULTATION BASIC ASSESSMENT AND/ OR SCOPING REPORT

2. DETAILS OF THE APPLICANT

Project applicant:	The Verneujk Pan Trust		
Registration no (if any):	IT311/99		
Trading name (if any):	N/A		
Responsible Person, (e.g. Director, CEO, etc.):	Mr C A Bruwer		
Contact person:	Mr C A Bruwer		
Physical address:	1844 Augrabies Road, Kakamas		
Postal address:	P O Box 241		
Postal code:	8870	Cell:	078 1833 288
Telephone:	054 431 0088	Fax:	054 431 0550
E-mail:	marie@isat.co.za		

3. ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP) INFORMATION

EAP:	EnviroAfrica CC		
Professional affiliation/registration:	International Association for Impact Assessment Membership Number: 214 (Bernard De Witt)		
Contact person (if different from EAP):	Vivienne Thomson / Bernard De Witt		
Company:	EnviroAfrica CC		
Physical address:	7 Pastorie Park, Cnr. Reitz and Lourens Streets, Somerset West, 7130		
Postal address:	P O Box 5367, Helderberg		
Postal code:	7135	Cell:	082 464 2874
Telephone:	021 851 1616	Fax:	086 512 0154
E-mail:	vivienne@enviroafrica.co.za		

If an EAP has not been appointed please ensure that an independent EAP is appointed as stipulated by the NEMA Regulations, prior to the commencement of the process.

The declaration of independence and the Curriculum Vitae (indicating the experience with environmental impact assessment and relevant application processes) of the EAP must also be attached as **Appendix 1**.

4. PROJECT DESCRIPTION

Farm Name:	Plot 2372, Alheidt
Application area (Ha)	Less than 5 ha
Magisterial district:	Kakamas, Z F Mgcawu District Municipality
Distance and direction from nearest town	Approximately 8,5km
21 digit Surveyor General Code for each farm portion	C03600070000237200000
Locality map	Attach a locality map at a scale not smaller than 1:250000 and attach as Appendix 2
Description of the overall activity. (Indicate Mining Right, Mining Permit, Prospecting right, Bulk Sampling, Production Right, Exploration Right, Reconnaissance permit, Technical co-operation permit, Additional listed activity)	<p>The mining permit application is for a borrow pit for the removal of sand from an area not more than 5ha in size.</p> <p>Although the total development footprint boundary encompasses an area of 5ha, due to 'no-go' areas indicated on the Area to be mined/Layout plan (As per Appendix), less than 5 ha will be mined.</p> <p>No processing or stockpiling of the mined sand will take place on site since it will be loaded directly into a truck for transportation off site once excavated. The sand will be sold to another company, CA Bruwer Konstruksie CC, based in Kakamas.</p> <p>It was communicated that no office or storage buildings will be constructed on the proposed site except for the provision of a portable toilet for the approximately 2 to 4 workers who will be working on site (digger/back-actor machine operators and tip-truck drivers). Location of portable toilet still to be determined.</p> <p>No water will be used during the excavation process and potatble water will be provided to the machine operators on site.</p>

6. PUBLIC PARTICIPATION

(Provide details of the public participation process proposed for the application as required by Regulation.

Details of the Public Participation process to be followed.

6.1.1. IDENTIFICATION OF INTERESTED AND AFFECTED PARTIES TO BE CONSULTED

IDENTIFICATION CRITERIA	Mark with an X where applicable	
	YES	NO
Will the landowner be specifically consulted?	X	
Will the lawful occupier on the property other than the Landowner be consulted?	X	
Will a tribal authority or host community that may be affected be consulted?	N/A	
Will recipients of land claims in respect of the area be consulted?	N/A	
Will the landowners or lawful occupiers of neighbouring properties been identified?	X	
Will the local municipality be consulted?	X	
Will the Authority responsible for power lines within 100 metres of the area be consulted?	X	
Will Authorities responsible for public roads or railway lines within 100 metres of the area applied for be consulted?	X	
Will authorities responsible for any other infrastructure within 100 metres of the area applied for be consulted? (Specify)	N/A	
Will the Provincial Department responsible for the environment be consulted?	X	
Will all of the parties identified above be provided with a description of the proposed mining /prospecting operation as referred above?	X	
Will all the parties identified above be requested in writing to provide information as to how their interests (whether it be socio-economic, cultural, heritage or environmental) will be affected by the proposed mining project?	X	
Other, Specify	Refer to Appendix 6 attached	

6.1.2. DETAILS OF THE ENGAGEMENT PROCESS TO BE FOLLOWED

Steps to be taken to notify interested and affected parties	PROVIDE DESCRIPTION HERE
<p>parties(Describe the process to be undertaken to consult interested and affected parties including public meetings and one on one consultations. NB the affected parties must be specifically consulted regardless of whether or not they attended public meetings. Photographs of notice boards, and copies of advertisements and notices notifying potentially interested and affected parties of the proposed application must be attached as Appendix)</p>	<p>First round of public participation (PP) process i.e. pre-application:</p> <p>Placed advertisement in local newspaper regarding project, background information maildrop notification. Sent/posted notifications to immediate neighbours, occupiers of the proposed site, organs of state, ward councillors and potential interested and affected parties (I&APs). Place A2 posters on proposed development site boundary. Display and place A3 posters and maildrop letters in public facilities (municipality, large formal retail shops, libraries). Display A3 posters in additional public places e.g. informal settlement entrances, local/informal spaza shops/gathering places. Deliver maildrop letters to any neighbouring properties / surrounding communities Update I&AP list. Populate summary of issues raised by I&APs in BAR.</p> <p>Second round of public participation (PP) process i.e. post-application:</p> <p>Load application form, BAR and associated documents on SAMRAD for competent authority viewing. Send out notifications to other registered I&APs re. application and DBAR availability on EnviroAfrica website for public viewing / comment. Email, deliver or post copies of any PP documentation to querying I&APs who request them. Update I&AP List. Update summary of issues raised by I&APs in BAR.</p> <p>Submit final BAR (FBAR) for comment and inform I&APs of submission.</p> <p>Await competent authority EA decision.</p> <p>Inform I&APs of competent authority appeal process and decision when received.</p>
<p>Information to be provided to Interested and Affected Parties.</p>	<p>Compulsory</p> <ul style="list-style-type: none"> • The site plan. • List of activities to be authorised • Scale and extent of activities to be authorised • Typical impacts of activities to be authorised (e.g.surface disturbance, dust, noise, drainage, fly rock etc.) • The duration of the activity. • Sufficient detail of the intended operation to enable them to assess what impact the activities will have on them or on the use of their land) <p>Other, specify:</p>
<p>Information to be required from Interested and Affected Parties.</p>	<p>Compulsory</p> <ul style="list-style-type: none"> • To provide information on how they consider that the proposed activities will impact on them or their socio-economic conditions • To provide written responses stating their suggestions to mitigate the anticipated impacts of each activity • To provide information on current land uses and their location within the area under consideration • To provide information on the location of environmental features on site to make proposals as to how and to what standard the impacts on site can be remedied. requested to make written proposals • To mitigate the potential impacts on their socio economic conditions to make proposals as to how the potential impacts on their infrastructure can be managed, avoided or remedied). <p>Other, Specify</p>

7. Description of the assessment process to be undertaken

ITEM	DESCRIPTION
<p>Environmental attributes. Describe how the Environmental attributes associated with the development footprint will be determined.</p>	
<p>Identification of impacts and risks. (Describe the process that will be used to identify impacts and risks.</p>	<p>Botanical, freshwater and heritage specialist were engaged to independently assess the proposed development area and advise the environmental impact assessment process. The identification of impacts and risks as well as mitigation measures to reduce/eliminate risks is explained in Appendix 7.</p>
<p>Consideration of alternatives. Describe how alternatives, and in particular the alternatives to the proposed site layout and possible alternative methods or technology to be applied will be determined.</p>	<p>The south east region of Plot 2372 adjacent to the existing regional dirt access road was initially considered in terms of finding a suitable area for the proposed development. Initially, an area more to the 'north-west' of the current proposed site was investigated (besides the area where the footprint is now proposed). Based on specialist recommendations where it was stated that sand mining should be kept to the open areas (already disturbed by grazing) away from the more prominent stream located to the north of the site investigation area, an alternative location for the proposed development site was found by shifting the original 5ha footprint south east, closer to the existing crop circle and away from the most significant trees on site (as specified in the botanical assessment). No processing or technological applications will be applied to the sand once it is mined from the area, therefore no alternative methods or technology to be applied were investigated.</p>
<p>Process to assess and rank impacts. Describe the process to be undertaken to identify, assess and rank the impacts and risks each individual activity.</p>	<p>Please refer to first two pages of Appendix 7.</p>
<p>Contribution of specialist reports Describe how specialist reports, if required, will be taken into consideration and inform the impact identification, assessment and remediation process.</p>	<p>Botanical, freshwater and heritage specialist were engaged to independently assess the proposed development area and advise the environmental impact assessment process. The identification of impacts and risks as well as mitigation measures to reduce/eliminate risks is explained in Appendix 7. Please refer to complete specialist reports as included as Appendices K to M in the Basic Assessment Report (BAR) accompanying this application.</p>
<p>Determination of impact management objectives and outcomes. Describe how impact management objectives will be determined for each activity to address the potential impact at source, and how the impact management outcomes will be aligned with standards.</p>	<p>Please refer to the identification of impacts and risks as well as mitigation measures to reduce/eliminate risks is explained in Appendix 7 and the Environmental Management Plan/Programme Report (EMPR) attached as Appendix O to the BAR accompanying this application.</p>

8. OTHER AUTHORISATIONS REQUIRED

LEGISLATION	Mark with an X where applicable			
	AUTHORISATION REQUIRED		APPLICATION SUBMITTED	
	YES	NO	YES	NO
SEMA's				
National Environmental Management: Air Quality Act		X		
National Environmental Management: Biodiversity Act	X - if tree removal required			
National Environmental Management: Integrated Coastal Management Act		X		
National Environmental Management: Protected Areas Act		X		
National Environmental Management: Waste Act		X		
National legislation				
Mineral Petroleum Development Resources Act	X		X	
National Water Act	X			X - to be submitted
National Heritage Resources Act		X		
Others: Please specify				

Please provide proof of submission of applications in **Appendix 5**.

In the event that an authorization in terms of the National Environmental Waste Management Act is required for any of the activities applied for please state so clearly in order for such an authorisation to be considered as part of this application.

9. DRAFT EMPr

For consultation purposes, provide a high level approach to the management of the potential environmental impacts of each of the activities applied for.

ACTIVITIES	PHASE (of operation in which activity will take place).	SIZE AND SCALE (of Disturbance)	TYPICAL MITIGATION MEASURES	COMPLIANCE WITH STANDARDS
(E.g. For prospecting - drill site, site camp, ablation facility, accommodation, equipment storage, sample storage, site office, access route etc...etc...etc E.g. for mining,- excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablation, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc...etc.)	State; Planning and design, Pre-Construction Construction, Operational, Rehabilitation, Closure, Post closure.	(volumes, tonnages and hectares or m ²)	(Eg, storm water control, dust control, noise control, access control, rehabilitation etc...., etc.....)	(A description of how each of the recommendations herein will comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities)
Please refer to Appendix				

10. CLOSURE PLAN

<p>In the space provided under each heading below, please provide a high level description of the plan for closure and the information that will be provided in the draft EMPr accompanying draft basic assessment report or environmental impact reports going forward.</p>	
<p>Baseline environment Describe how the baseline environment will be determined with the input of interested and affected parties and due cognizance of the current land uses and or existing biophysical environment</p>	
<p>Closure objectives Describe the closure objectives and the extent to which they will be aligned to the baseline environment</p>	<p>Please refer to the BAR accompanying this application, as well as the EMPR attached as Appendix O to the BAR. The closure objective for the proposed development site is that it will revert to agricultural use post sand mining.</p>
<p>Rehabilitation Plan Describe the scale and aerial extent of the prospecting or mining listed activities to be authorised, including the anticipated prospecting or mining area at the time of closure, and confirm that a site rehabilitation plan drawn to a suitable scale will be provided in the draft EMPr to be submitted together with the draft EIR or Basic Assessment Report as the case may be.</p>	<p>Rehabilitation will be on-going, concurrent with mining operations. Please refer to the BAR accompanying this application, as well as the EMPR attached as Appendix O to the BAR. The closure objective for the proposed development site is that it will revert to agricultural use post sand mining.</p>
<p>Rehabilitation Cost Describe how the rehabilitation cost will be determined and provide a preliminary estimate thereof</p>	<p>Please refer to the BAR accompanying this application, as well as the Summary of Costs of the proposed development (including rehabilitation) attached as Appendix P to the BAR. The closure objective for the proposed development site is that it will revert to agricultural use post sand mining.</p>
<p>Decommissioning Considering that rehabilitation must take place upon cessation of an activity, describe when each of activities applied for will be rehabilitated in terms of either the cessation of the individual activity or the cessation of the overall prospecting or mining activity.</p>	<p>Rehabilitation will be on-going, concurrent with operations. Please refer to the BAR accompanying this application, as well as the EMPR attached as Appendix O to the BAR. The closure objective for the proposed development site is that it will revert to agricultural use post sand mining.</p>


 Signature of the applicant / Signature on behalf of the applicant:

Verneux Pan Trust
 Name of company (if applicable):

6 MARCH 2019
 Date:

Resolusie van die Verneuk Pan Trust

IT311/99

By `n vergadering van die TRUSTEES vir die bogenoemde Trust gehou te Kakamas op die 03de dag van Desember 2018

Teenwoordig:

CHAREL ANDRIES BRUWER

HENDRIK CORNELIUS LE ROUX

Agenda:

Omgewings Impakstudie en aansoek – Gruisgroef te perseel 1567

Derhalwe is daar eenparig besluit soos volg:

- 1. Dat CHAREL ANDRIES BRUWER magtiging verleen word om namens die trust alle dokumentasie wat gepaard gaan met die omgewings impakstudie en aansoek vir die Sandgroef te perseel 2372 namens die ander Trustees te onderteken.**
- 2. Sodanige volmag sluit ook in enige ander dokumentasie waarby die Trust betrokke mag wees.**

Gesertifiseer `n ware uittreksel van die notule.

Geteken hierdie 03de dag van Desember 2018



CHAREL ANDRIES BRUWER



HENDRIK CORNELIUS LE ROUX

**APPENDIX 4
DECLARATION OF THE EAP**

I, Vivienne Thomson , declare that –

General declaration:

- I act as the independent environmental practitioner 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 environmental impact assessments, 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 will take into account, to the extent possible, the matters listed in regulation 8 of the Regulations when preparing the application and any report relating to the application;
- 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;
- I will ensure that information containing all relevant facts in respect of the application is distributed or made available to interested and affected parties and the public and that participation by interested and affected parties is facilitated in such a manner that all interested and affected parties will be provided with a reasonable opportunity to participate and to provide comments on documents that are produced to support the application;
- I will ensure that the comments of all interested and affected parties are considered and recorded in reports that are submitted to the competent authority in respect of the application, provided that comments that are made by interested and affected parties in respect of a final report that will be submitted to the competent authority may be attached to the report without further amendment to the report;
- I will keep a register of all interested and affected parties that participated in a public participation process; and
- I will provide the competent authority with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not
- all the particulars furnished by me in this form are true and correct;
- will perform all other obligations as expected from an environmental assessment practitioner in terms of the Regulations; and
- I realise that a false declaration is an offence in terms of regulation 71 of the Regulations and is punishable in terms of section 24F of the Act.

Disclosure of Vested Interest (delete whichever is not applicable)

- I do not have and will not have any vested interest (either business, financial, personal or other) in the proposed activity proceeding other than remuneration for work performed in terms of the Regulations;

~~• I have a vested interest in the proposed activity proceeding, such vested interest being:~~

None _____



Signature of the environmental assessment practitioner:

EnviroAfrica CC
Name of company:

6 March 2019
Date:

APPENDIX 1

Environmental Assessment Practitioner (EAP) *Curriculum Vitae*

ENVIRONMENTAL ASSESSMENT PRACTITIONER INDEPENDENCE, CONDITIONS AND DETAILS

EnviroAfrica CC is an independent environmental consulting firm that has no interest in the proposed activity other than fair remuneration for services rendered. Remuneration for services is not linked to approval by decision making authorities and EnviroAfrica has no vested interest in secondary or subsequent development which may result from this project.

The findings, results, observations and recommendations given here are based on the best scientific and professional knowledge available from information provided and verified, where required, by site visits.

EnviroAfrica reserves the right to modify aspects of this report, including the recommendations, if new information becomes available which may have a significant impact on the findings of this report.

This report was compiled by Vivienne Thomson. Site visits were undertaken by Bernard De Witt.

Expertise and *Curriculum Vitae* of Bernard De Witt and Vivienne Thomson:

1. BERNARD DE WITT

Nationality	South African
Profession	Environmental Assessment Practitioner
Experience	Environmental Impact Assessments Environmental Management Environmental Planning
Position in Firm	Director
Language	Proficient in Afrikaans and English
Years Experience:	Since 1983

KEY QUALIFICATIONS

- Environmental Impact Assessment and Review
- Coordination, conducting and review of Integrated Environmental Management process
- Environmental Planning, Policy formulation and Management
- Environmental Advisory Services
- Facilitation of Public Participation Processes
- Environmental Auditing
- Environmental Management throughout the Project Cycle
- Environmental Management Plans/Programmes & Environmental Control or Site Officer during construction phase

EDUCATION AND MEMBERSHIPS

- BSc in Forestry (Nature Conservation) 1984
- Hons.B (Public management), Stellenbosch University, 1989
- National Diploma in Parks and Recreation Management, Cape Town Technicon
- Member: International Association for Impact Assessment

EMPLOYMENT RECORD

October 1997 till present	EnviroAfrica, Western Cape
July 1989 – July 1997	Cape Nature Conservation
January 1985 – June 1989	Cape Town Municipality (Nature Reserves)
December 1983 – January 1985	Department of Environmental Affairs, Indigenous Forest Section, Knysna

2. VIVIENNE THOMSON

Nationality	South African
Profession	Environmental Consultant
Specialisation	Environmental Management Systems Environmental Impact Assessments Environmental Licence Applications Environmental Training
Position in Firm	Consultant
Language	Proficient in English and Afrikaans
Years Experience	Since 1999

KEY QUALIFICATIONS

- Establishing and implementing tailored ISO 14001 compliant environmental management systems
- Environmental impact assessments (EIRs and BAs)
- Development of environmental management plans/programmes
- Liaising with regulatory authorities on behalf of clients
- Environmental contract management
- Evaluating and facilitating site legal compliance and due diligence
- Licence applications related to emissions, water use, waste discharge and waste sites
- On-site training and awareness interventions

EDUCATION AND MEMBERSHIPS

- BSc in Zoology, University of Cape Town (1995)
- Reading towards an MSc (Environmental Science)
- Various environmental related short courses
- Member: National Association for Clean Air
Coal and Ash Association of South Africa

EMPLOYMENT RECORD

September 2004 to date	Environmental Consultant (EIAs, EMS establishment, EMPr development and legal compliance evaluations) – Gauteng and Western Cape
September 2000 – August 2004	Lethabo Power Station, Gauteng
June 1999 – August 2000	Duvha Power Station, Mpumalanga
February 1997 – May 1999	Tavistock Collieries Ltd., Mpumalanga

APPENDIX 2

Locality Maps

Appendix 2 – Locality Maps (Plot 2372, Alheidt, Proposed Sand Borrow Pit)

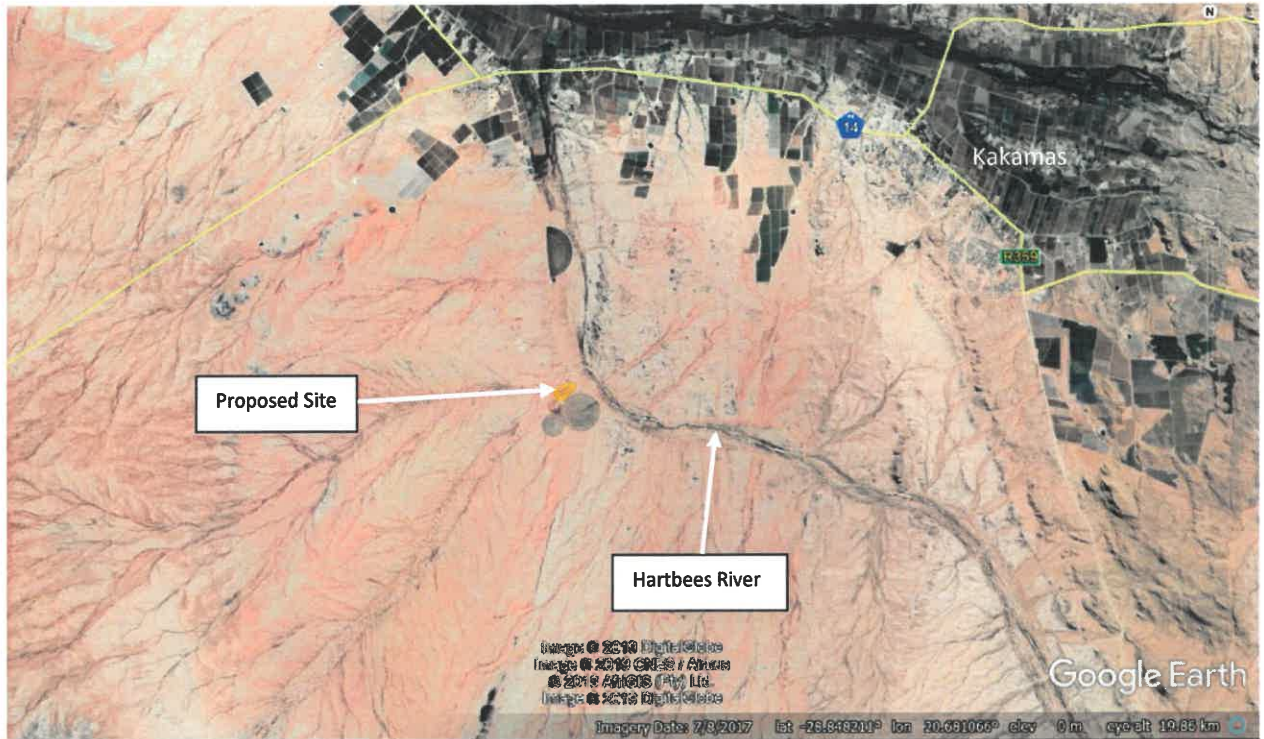


Figure 1: Proposed development site for the proposed Sand Borrow Pit on Plot 2372, Alheidt, approximately 7,5km south-west of Kakamas



Figure 2: Proposed development site for the proposed Sand Borrow Pit on Plot 2372, Alheidt, showing the Hartbees river to the north-east of the proposed development site, as well as immediate land uses (mainly agricultural)

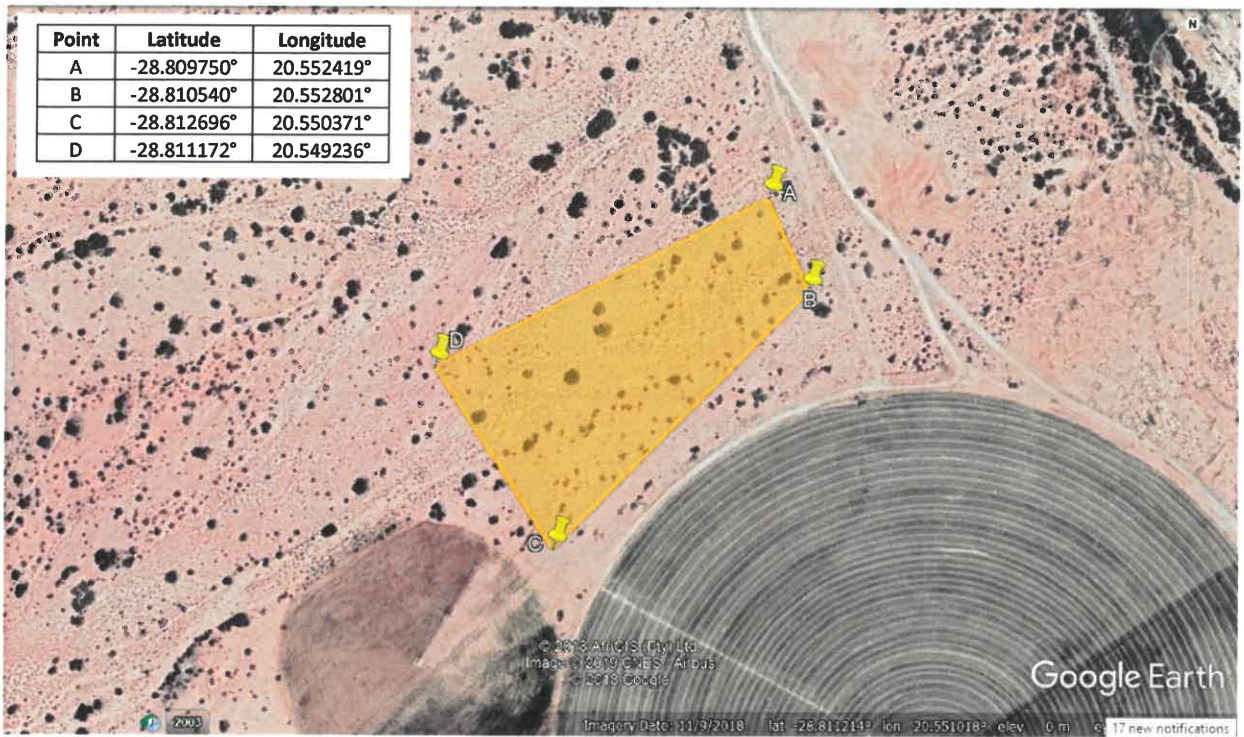


Figure 3: Proposed development site for the proposed Sand Borrow Pit located in the south-east corner of Plot 2372, Alheid Kakamas

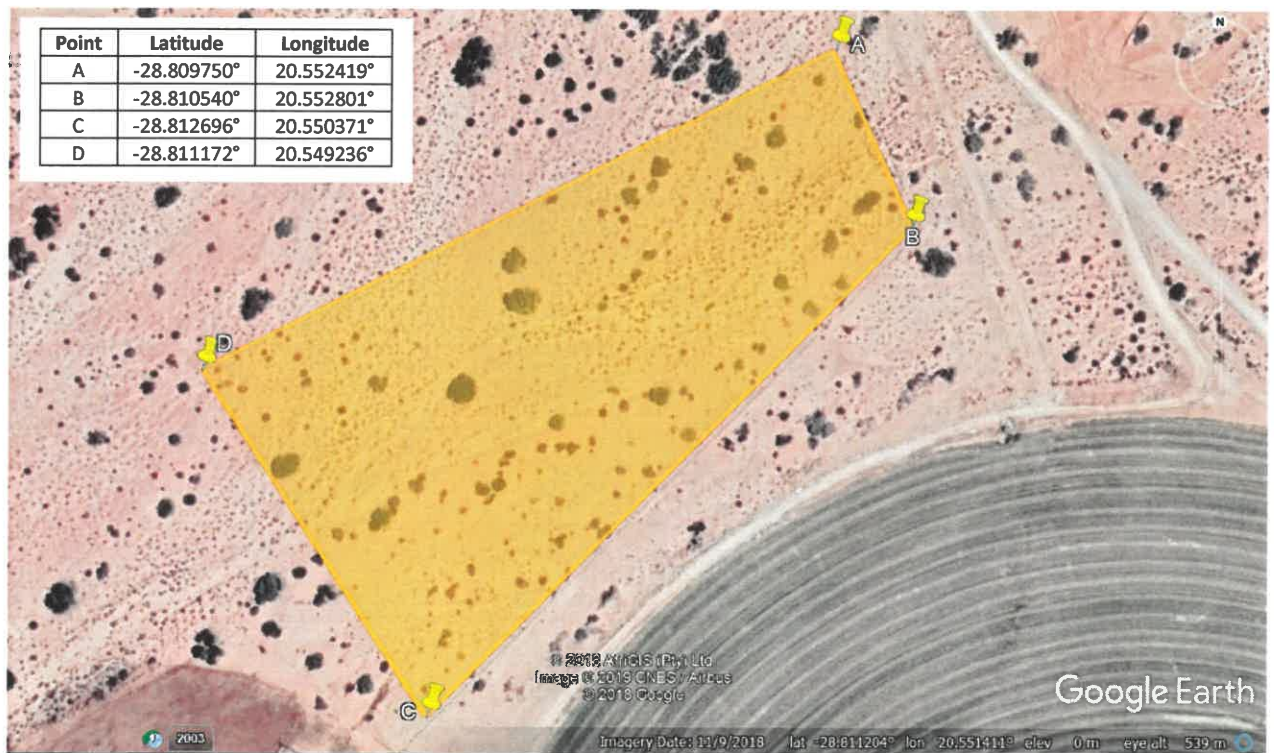


Figure 4: Proposed development site for the proposed Sand Borrow Pit on Plot 2372, Alheid, Kakamas.

Existing Environmental
Authorisations

None that are known.

APPENDIX 4

Area to be mined/Layout plan

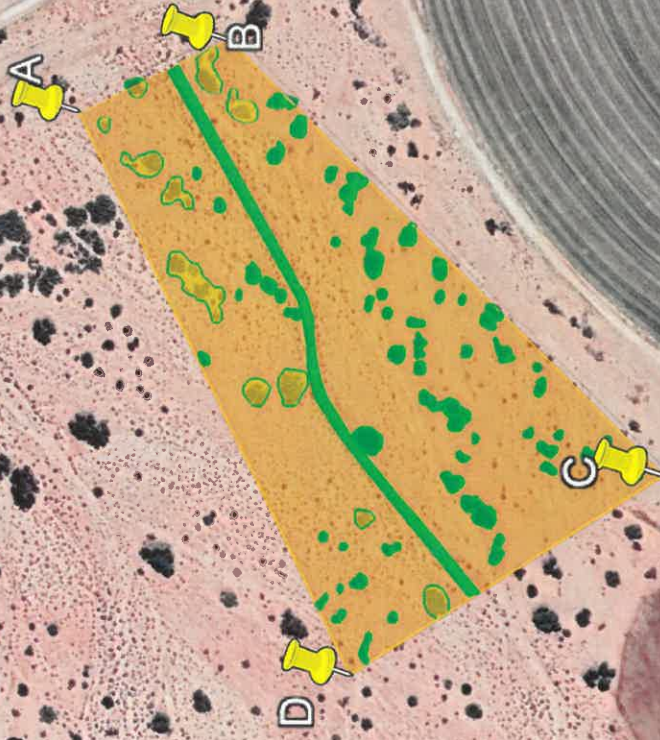
Proposed Verneujk Pan Trust Sand Borrow Pit

Orange area are areas to be mined for sand once topsoil has been recovered.

Green areas are 'no-go' areas as per the biodiversity and freshwater specialist reports.

Legend

-  Proposed 5ha Borrow Pit Site



Google Earth

© 2018 Airbus (Fly) Ltd.

Image © 2019 CNES / Airbus

© 2018 Google



300 m

APPENDIX 5

Other Authorisations Application Proof

None available at time of application.

APPENDIX 6

Proof of Public Participation



Environmental Management and Impact Assessment
Omgewingsakeur, en Impakbeoordeling

PUBLIC PARTICIPATION PROCESS

Newspaper Advert Placed:

24 August 2018
(1st round)

First public participation period starts 24 August 2018 and ends 25 October 2018

**Sand Borrow Pit,
Alheid, Kakamas**
(Plot 2372, Kakamas)

ISAP List
for:

Title	Initiate/Name	Surname	Affiliation	Postal Address	Town/City	Code	Telephone	Fax	E-mail
1. Applicant									
1.1 Ms A		Bruwer	Applicant	PO Box 241	Kakamas	8870	054 431 0088 / 506 1857	054 431 0550	marie@isat.co.za
1.2 Ms M		Bruwer	Contact person for Applicant	PO Box 241	Kakamas	8870	054 431 0088 / 082 339 9827	054 431 0550	marie@isat.co.za
2. Property / Land Owners:									
2.1 Mr Johan		Coetze	Land Owner	PO Box 68	Marchand	8873	078 1833 288	054 431 0550	marie@isat.co.za
3. Occupiers									
3.1		Charel and Marie	Contact persons for Applicant	PO Box 241	Kakamas	8870	054 431 0088 / 082 339 9827	054 431 0550	marie@isat.co.za
4. Municipality									
4.1 Mr JG		Lategaan	Municipal Manager, KaiCarib Municipality	Private Bag x6	Kakamas	8870	054 461 6400	054 461 6401	mun@kaiqarib.gov.za or admin@kaiqarib.gov.za
4.2 Mr JJJ		Olyn	Mayor, Kakamas, KaiCarib Municipality	Private Bag x6	Kakamas	8870	054 461 6400	054 461 6441	mavoy@kaiqarib.gov.za
4.3 Mr Elias		Nioba	ZF Mgqawu District Municipality	Private Bag x6039	Uptington	8800	054 337 2800	054 337 2888	mun@zfm-dm.gov.za
5. Municipal Ward Councilors									
5.1 Ms BM		Bock	KaiCarib Municipality	Private Bag x6	Kakamas	8870	054 461 6700	054 461 6401	admin@kaiqarib.gov.za
6. State Organisations:									
6.1 Mr O		Riba	Department of Environmental and Nature Conservation NC	Private Bag X6102	Kimberley	8300			
6.2 Mr W		Mothibi	Head of Department: Agriculture, Land Reform and Rural Development	Private Bag X5018	Kimberley	8300	053 838 9102	053 832 4528	
6.3 Mr R		Mazwi	Dept. of Water and Sanitation - NC	Private Bag x6101	Kimberley	8300	053 773 1239		
6.4 Ms G		Botha	Co-operative Governance, Human Settlements and Traditional Affairs	Private Bag X5005	Kimberley	8300	053 830 9422	053 831 4308	
6.5 Mr K		Nogwili	Dept. of Transport, Roads & Public Works	P. O. Box 3132	Kimberley	8301	053 839 2100	053 839 2291	
6.6 Mr J		Mans	Dept. of Agriculture, Forestry and Fisheries	P. O. Box 2782	Uptington	8800	054 338586	054 3340030	jacolineMa@daff.gov.za
6.7 Mr JC		van der Walt	SANRAL	P/ Bag X 19	Bellville	7535	021 957 4600		
6.8 Ms L		Wolfe	Department: Transport, Safety and Liaison	Private Bag X1368, Southey Chambers, Southey Street,	Kimberley	8300	053 839 1700	053 839 1773	
6.9 Mr J		Geeringh	Eskom Transmission	MegaWatt Park, D1Y38 or P.O. Box 1091	Johannesburg	2000	011 516 7233	086 661 4064	john.geeringh@eskom.co.za
7. Neighbours									
7.1 Mr T		van der Heever	Chargo Trust	P. O. Box 624	Kakamas	8870	054 441 0291		
7.2 Mr P.T.		Dykman	Individual	P.O. Box 537	Kakamas	8870	082 781 7527		pie@diddfarms.net
7.3 The		Mansging	Triple D Farms (Pty) Ltd	P.O. Box 537	Kakamas	8870	054 431 1568		pie@diddfarms.net
7.4			Maildrop delivery done at local library						
7.5 Mr E		Keen	Die Heuwel Bredery	P.O. Box 137	Kakamas	8872	082 457 7387		
7.6 Mr K		van Zyl	Van Loveren Bredery	P.O. Box 369	Kakamas	8873	082 782 7918		
8. Other:									
8.1 Ms Anna		Strauss	Kalahari Bulletin	Per email correspondence			054 331 3482	086 271 3300	astrauss@volksblad.com
8.2 Ms Melanie		Miles	Leads 2 Business	Per email correspondence			086 083 6317	033 345 5882	melanitem@l2b.co.za
8.3 The Director			SKA Africa	3rd Floor, The Park, Park Road,	Pinelands	7431	021 506 7300	021 506 7375	

SOMERSET MALL 7137
 23 AUG 2018
 COUNTRY 3

21

**ENVIRONMENTAL IMPACT ASSESSMENT
PRE-APPLICATION PUBLIC PARTICIPATION PROCESS**

PROPOSED SAND BORROW PIT, ALHEIDT, KAKAMAS
(on Plot 2372, Kakamas South, Kai! Garib Local Municipality, Kenhardt District Municipality)

Notice is hereby given of the pre-application public participation process in terms of the National Environmental Management Act, No. 107 of 1998 (NEMA) and the Environmental Impact Assessment (EIA) Regulations (2014), as well as the National Water Act, No. 36 of 1998 (NWA).

EnviroAfrica CC has been appointed by Marie and Charel Bruwer, representing the proponent/applicant, Antoinette Bruwer, to undertake the EIA application process under NEMA for the above proposed project. The water use licence application process under the NWA, will be undertaken by a separate independent consultancy, WatsanAfrica, working in conjunction with EnviroAfrica. Applications for the above proposed development will be submitted to the competent authorities (the Northern Cape Department of Mineral Resources and the Northern Cape Department of Water and Sanitation) and will address the following activities:

Relevant Act/Notice:	Activity No (s)	Description
NEMA, EIA Regulations Listing Notice 1 of 2014, as amended (GN. R. 327)	21	Any activity including the operation of that activity which requires a mining permit in terms of section 27 of the Mineral and Petroleum Resources development Act, No. 28 of 2002 (MPRDA), including (a) associated infrastructure, structures and earthworks, directly related to extraction of a mineral resource; or (b) the primary processing of a mineral resource including winning, extraction, classifying, concentrating, crushing, screening or washing; but excluding the secondary processing of a mineral resource, including the smelting, beneficiation, reduction, refining, calcining or gasification of the mineral resource in which case activity 6 in Listing Notice 2 applies.
NEMA, EIA Regulations Listing Notice 1 of 2014 (GN. R. 327)	12(xii)(c)	The development of infrastructure or structures with a physical footprint of 100m ² or more where such development occurs if no development setback exists, within 32m of a watercourse, measured from the edge of a watercourse.
NWA, Section 21	a	Taking water from a water resource
NWA, Section 21	c	Impeding or diverting the flow of water in a watercourse
NWA, Section 21	i	Altering the bed, banks or characteristics of a watercourse

Project Location and Description:

The proposed development site is located at **28°48'33.16"S, 20°33'7.00"E**, on Plot 2372, Alheidt, south-west of Kakamas, Northern Cape.

The proposed development is the establishment of a sand borrow pit which will cover an area of not more than 5ha.

Description of Alternatives:

Alternative site locations do not exist. However, alternative localities for the workings of the quarry include *inter alia* layout options and the option of not proceeding with the proposed development at all (the No-Go option) do exist. All alternatives will be considered within the Draft Basic Assessment Report (DBAR) to be issued for public comment once this pre-application public participation registration stage is complete.

Public Participation:

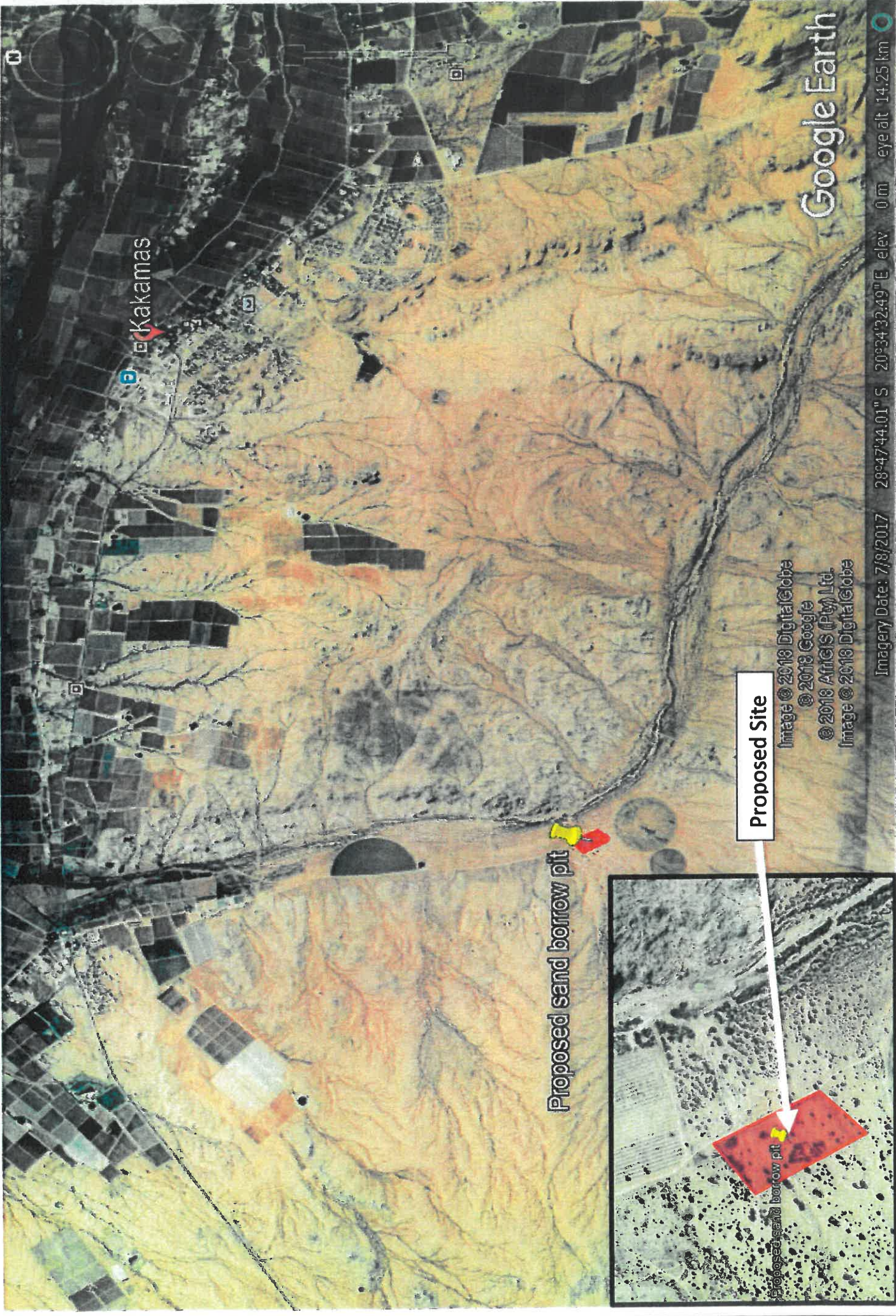
Interested and Affected Parties (I&APs) are hereby invited to register (in writing) and/or provide initial comments, queries, concerns or opportunities relating to this proposed project, **on or before 25th October 2018**.

In order to register or submit a comment, I&APs should refer to the project name, and provide their name, address & contact details (*indicating your preferred method of notification*) and an indication of any direct business, financial, personal, or other interest which they have in the application. Please note that future correspondence will only be sent to registered I&APs.

To register as an I&AP or for more information contact EnviroAfrica at:

EnviroAfrica (Sand Borrow Pit, Alheidt, Kakamas), P.O. Box 5367, HELDERBERG, 7135
Tel.: 021 8511616 E-mail: admin@enviroafrica.co.za

Fax: 086 512 0154



Kakamas

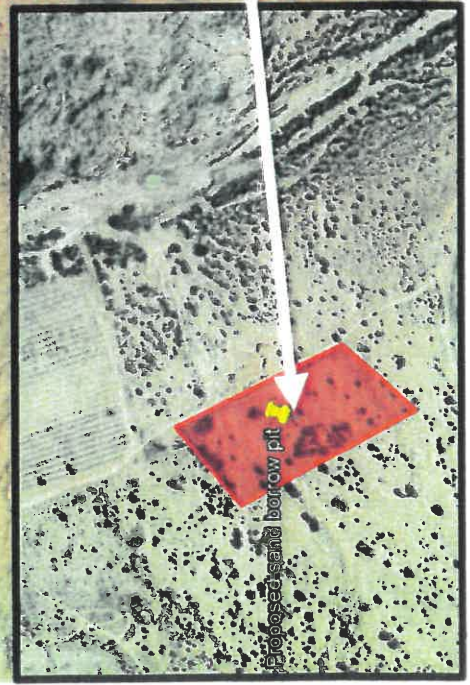
Proposed sand borrow pit

Proposed Site

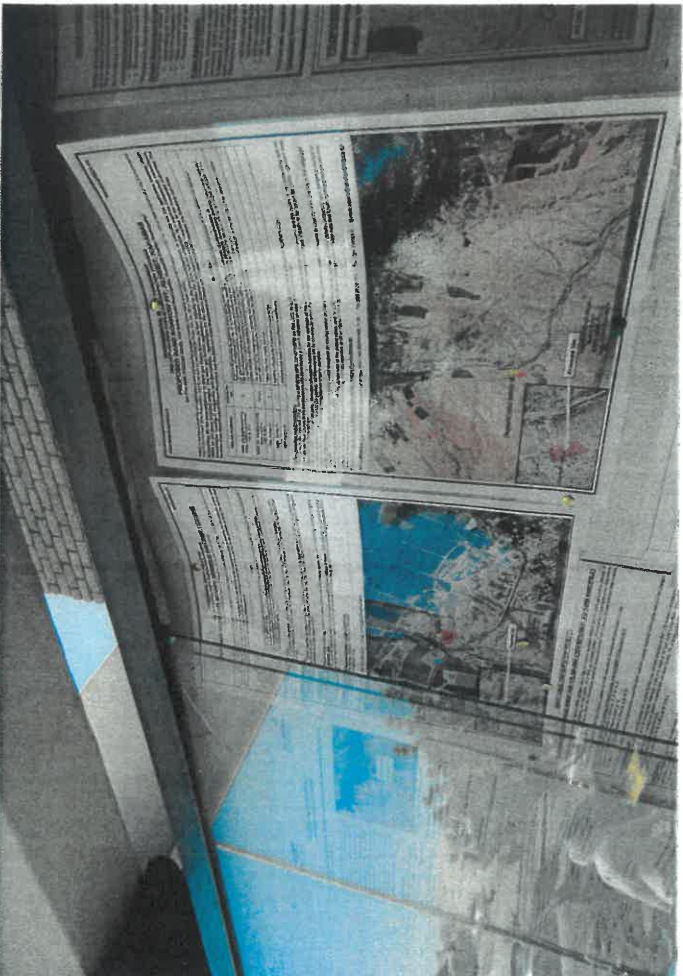
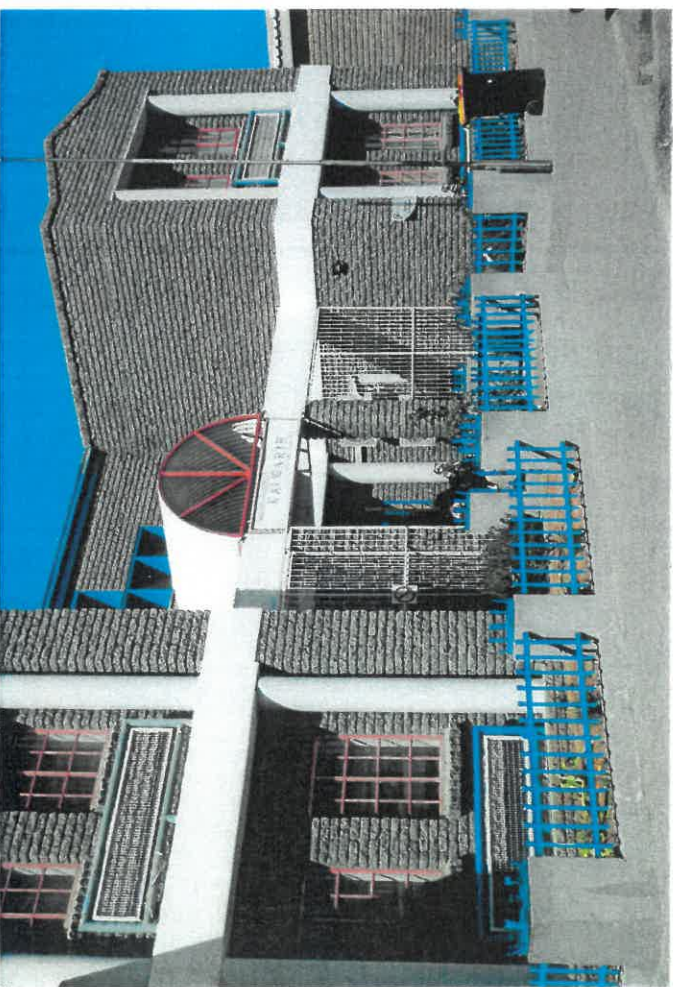
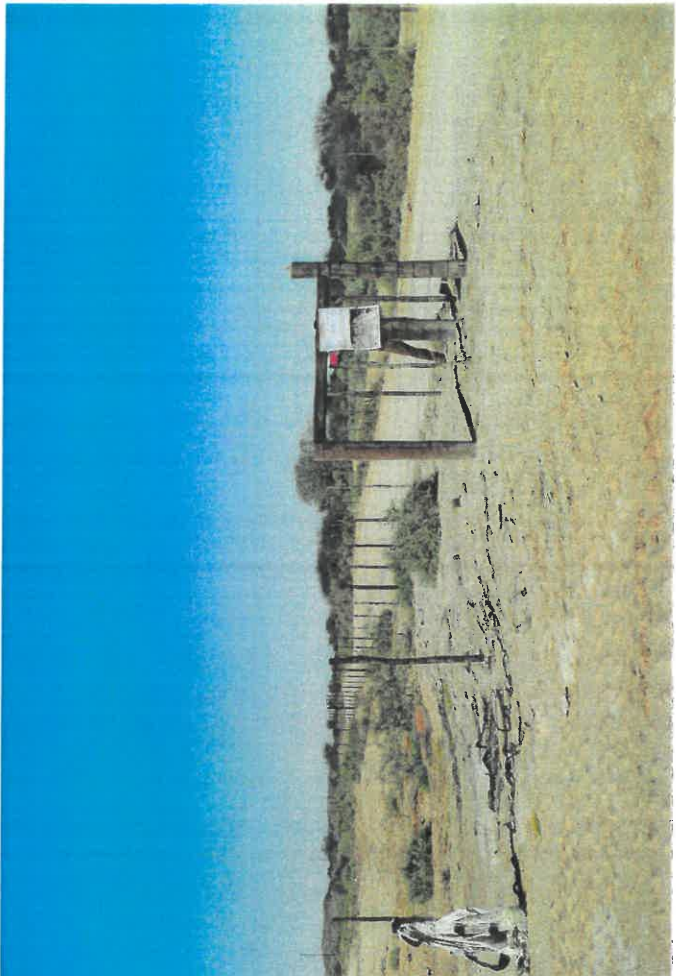
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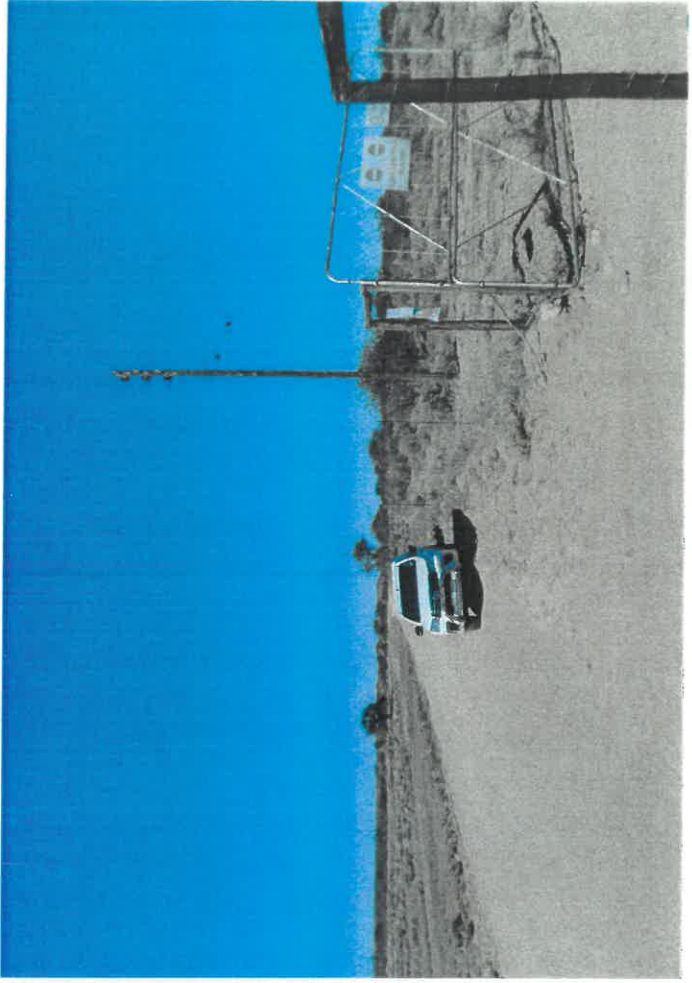
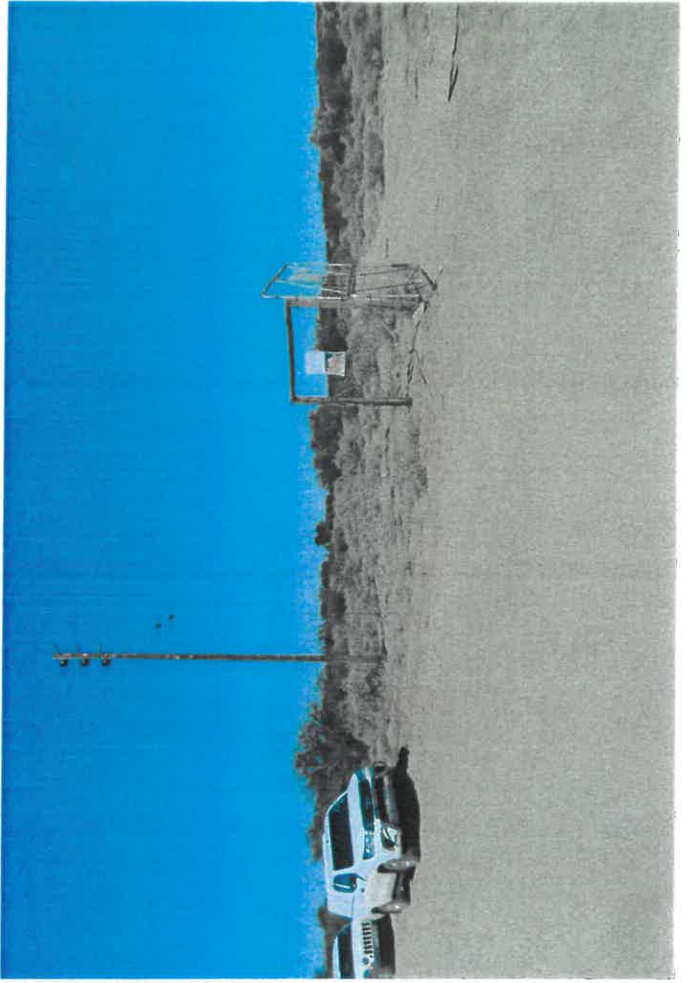
Google Earth

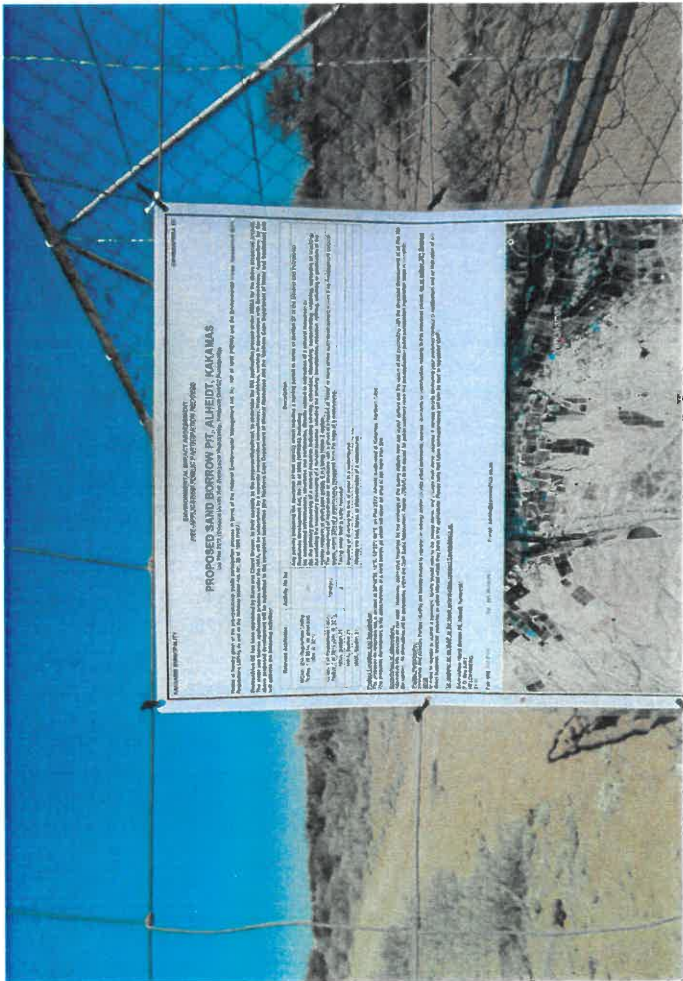
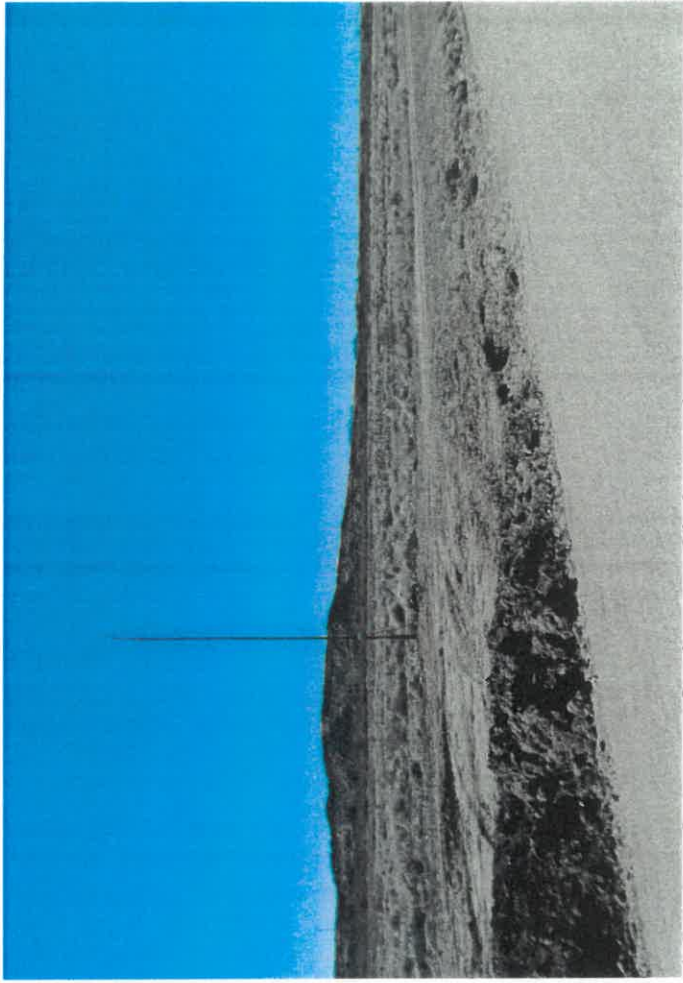
Imagery Date: 7/8/2017 28°47'44.01" S 20°34'32.49" E elev 0 m eye alt 14.25 km

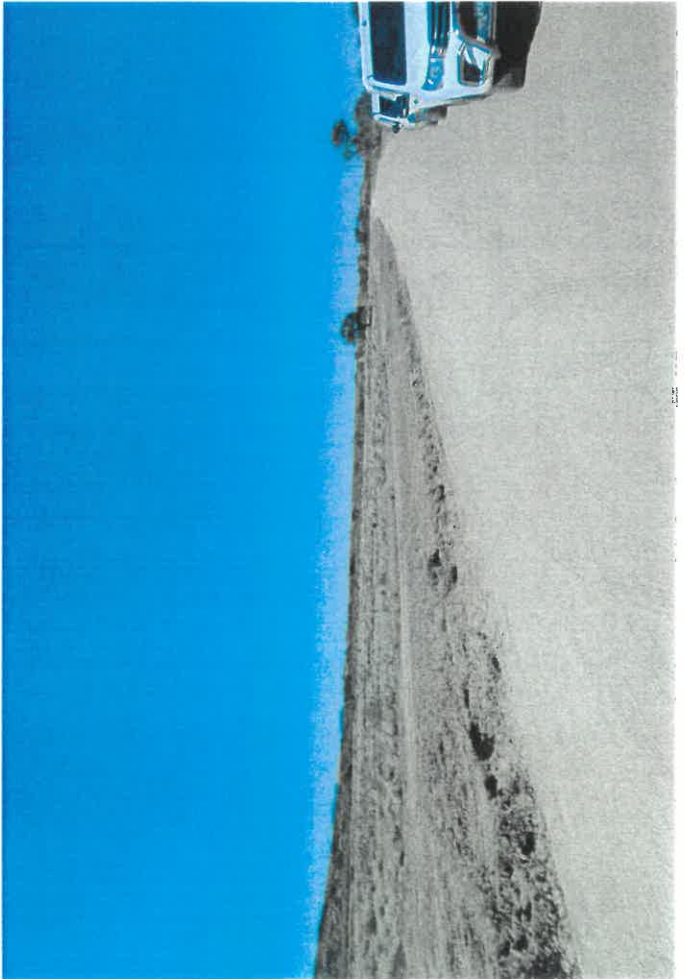
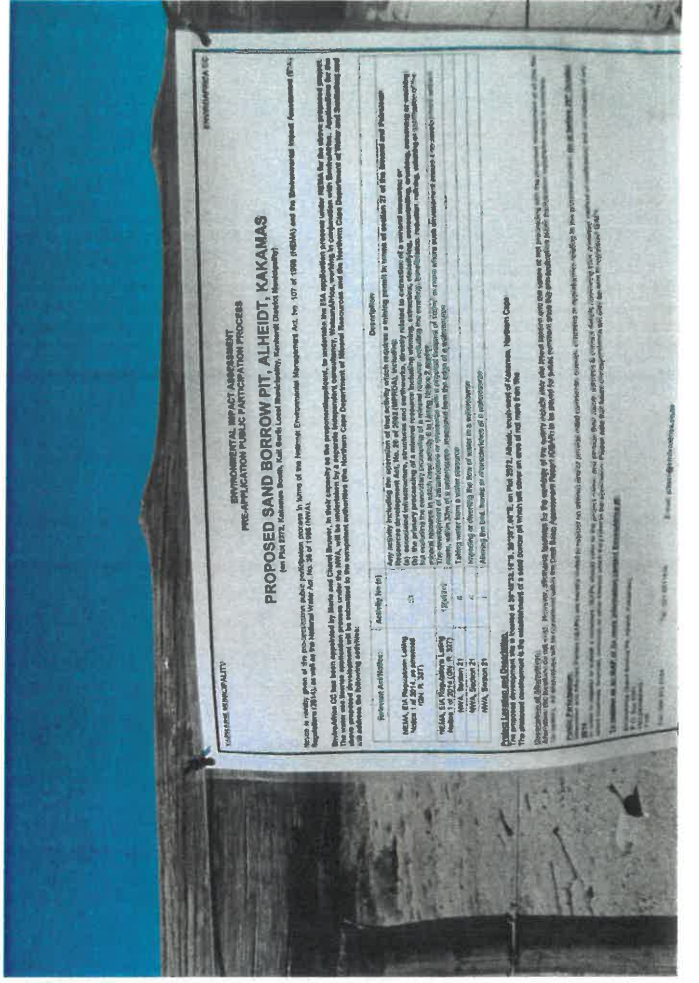
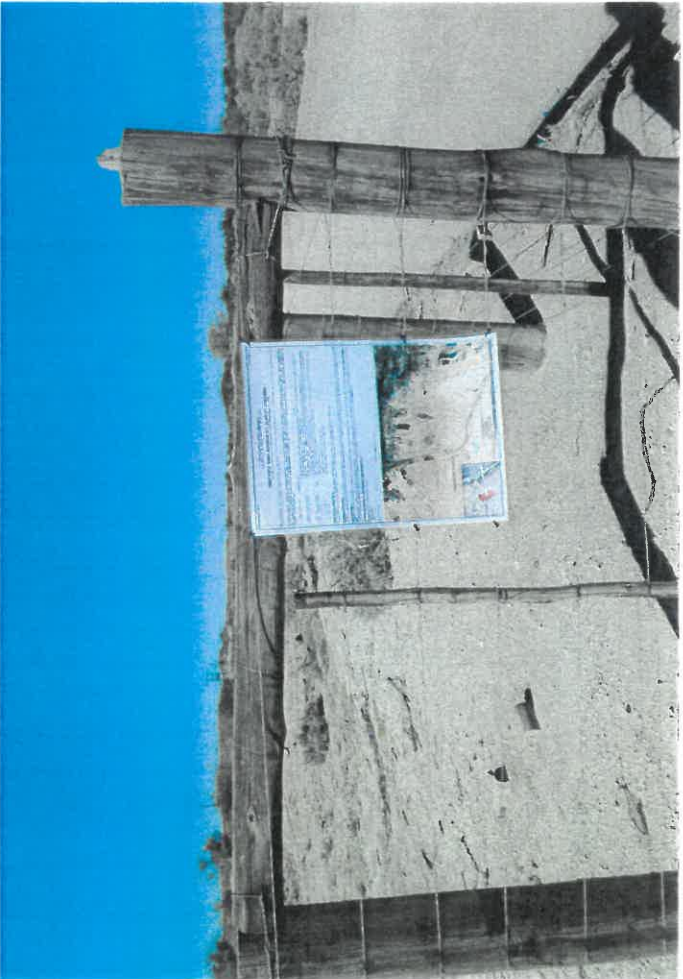


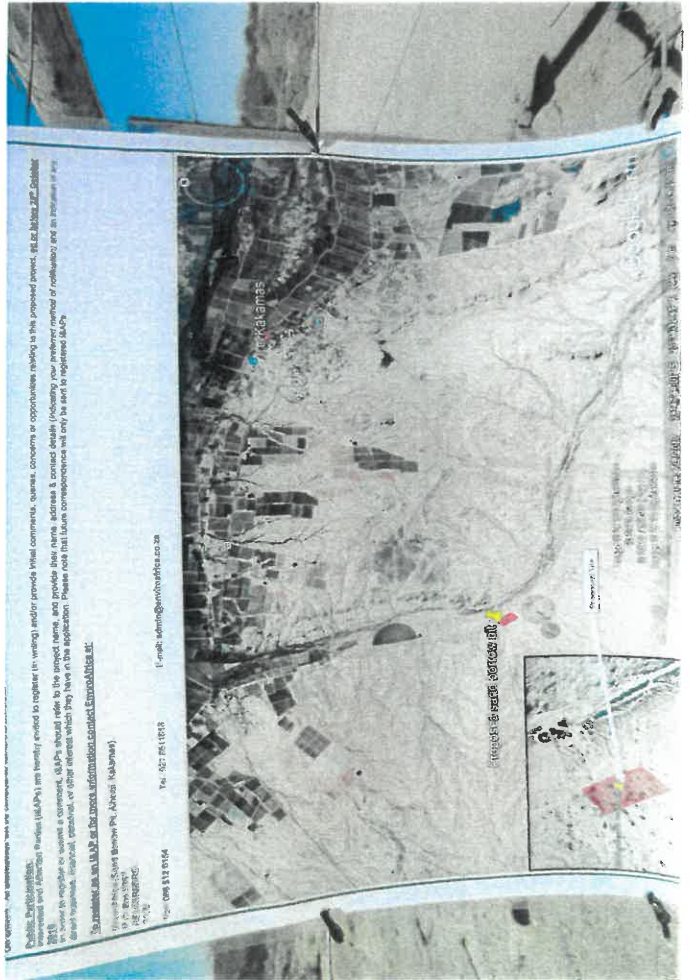
Proposed sand borrow pit











020 833 2104 Tel: 027 951 1213 E-mail: admin@vivafrica.co.za
 020 833 2104 Tel: 027 951 1213 E-mail: admin@vivafrica.co.za
 020 833 2104 Tel: 027 951 1213 E-mail: admin@vivafrica.co.za



PROPOSED AGGREGATE QUARRY, VERNEUJK PAN TRUST, KAKAMAS

ENVIRONMENTAL IMPACT ASSESSMENT

PRE-APPLICATION PUBLIC PARTICIPATION PROCESS

PROPOSED AGGREGATE QUARRY, VERNEUJK PAN TRUST, KAKAMAS

for the 1887, Kakamas, and District Local Municipality, Karoo-Bush District Municipality

Includes a table with columns: "Activity", "Start Date", "End Date", "Frequency", "Duration", "Location", "Description", "Responsible Party", "Status", "Comments".

Includes a map showing the location of the quarry in Kakamas, with labels for "Kakamas", "Verneuijk Pan Trust", and "Proposed Quarry Site".

PROPOSED AGGREGATE QUARRY, SAND BORROW PT, ALHEIDT, KAKAMAS

ENVIRONMENTAL IMPACT ASSESSMENT

PRE-APPLICATION PUBLIC PARTICIPATION PROCESS

PROPOSED AGGREGATE QUARRY, SAND BORROW PT, ALHEIDT, KAKAMAS

for the 1887, Kakamas, and District Local Municipality, Karoo-Bush District Municipality

Includes a table with columns: "Activity", "Start Date", "End Date", "Frequency", "Duration", "Location", "Description", "Responsible Party", "Status", "Comments".

Includes a map showing the location of the quarry in Alheid, with labels for "Alheid", "Sand Borrow Pt", and "Proposed Quarry Site".

PROPOSED AGGREGATE QUARRY, VERNEUJK PAN TRUST, KAKAMAS

ENVIRONMENTAL IMPACT ASSESSMENT

PRE-APPLICATION PUBLIC PARTICIPATION PROCESS

PROPOSED AGGREGATE QUARRY, VERNEUJK PAN TRUST, KAKAMAS

for the 1887, Kakamas, and District Local Municipality, Karoo-Bush District Municipality

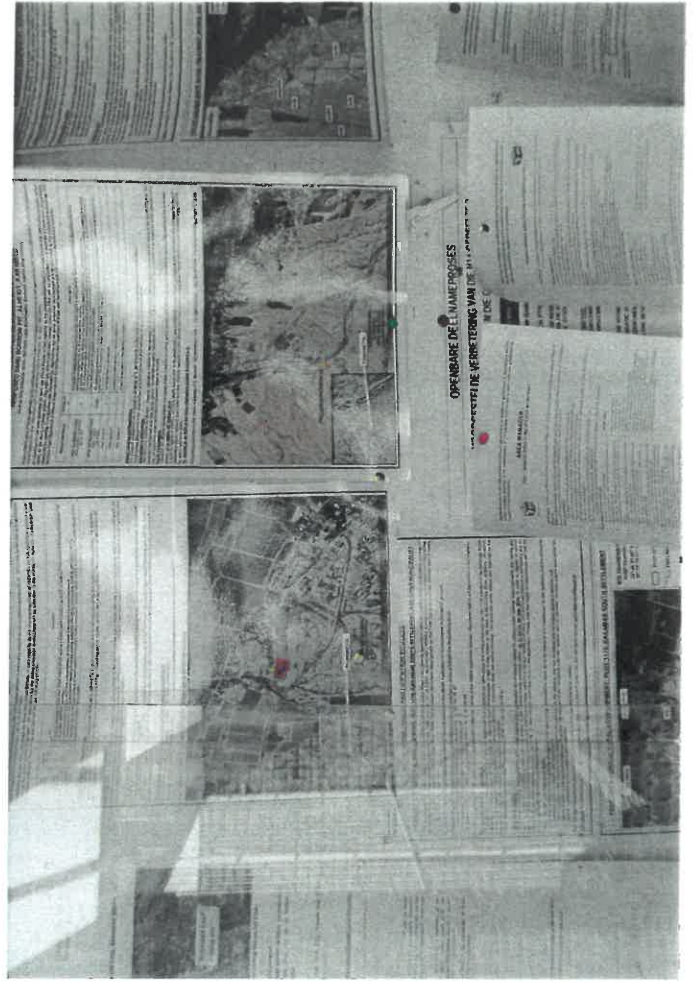
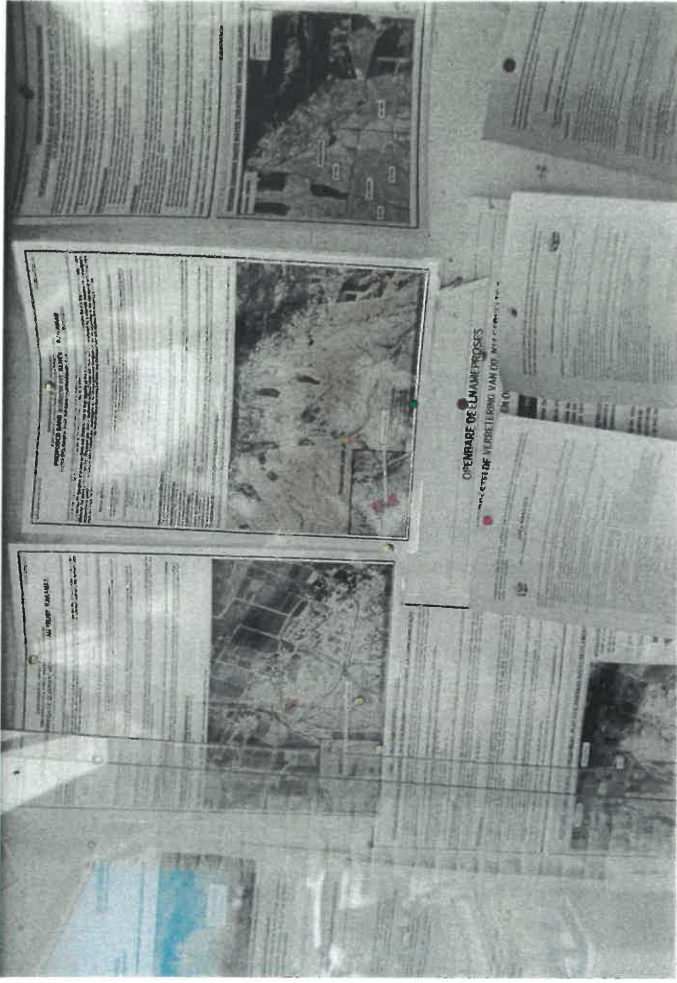
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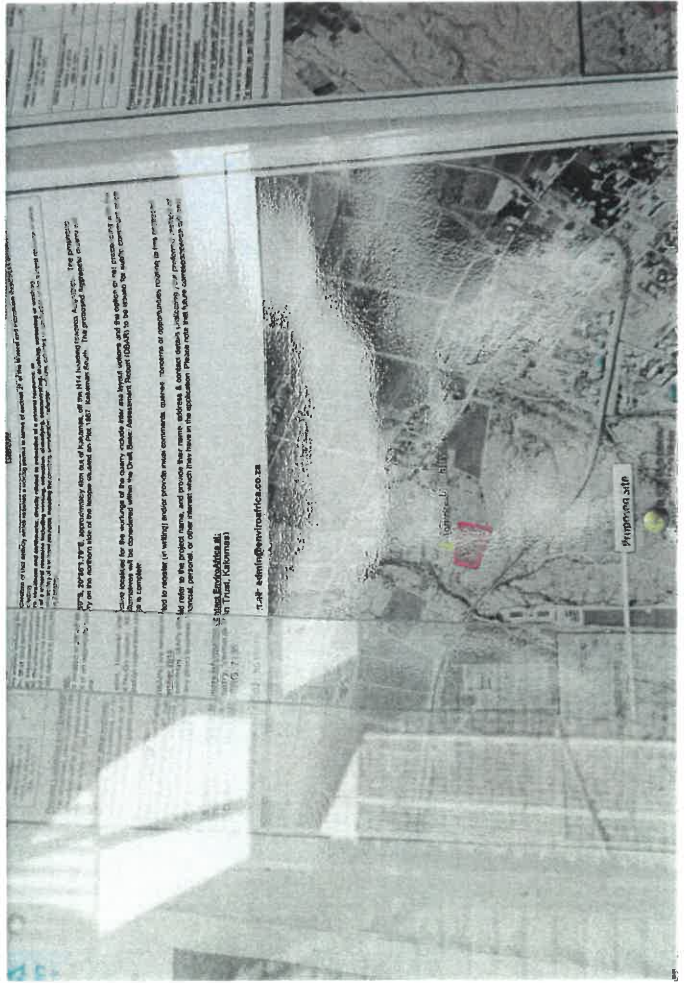
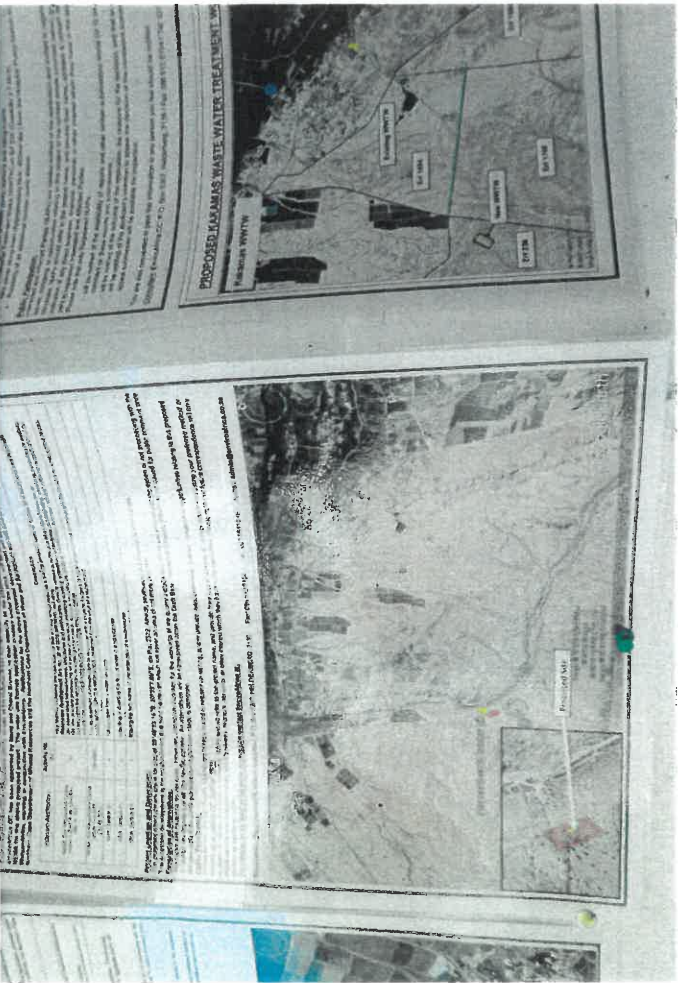
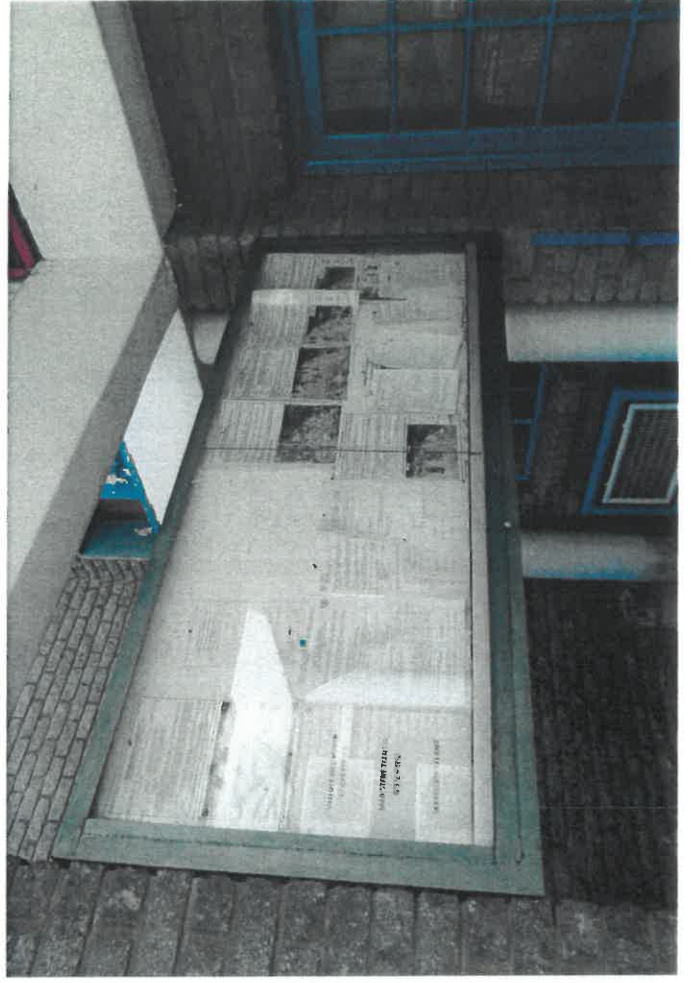
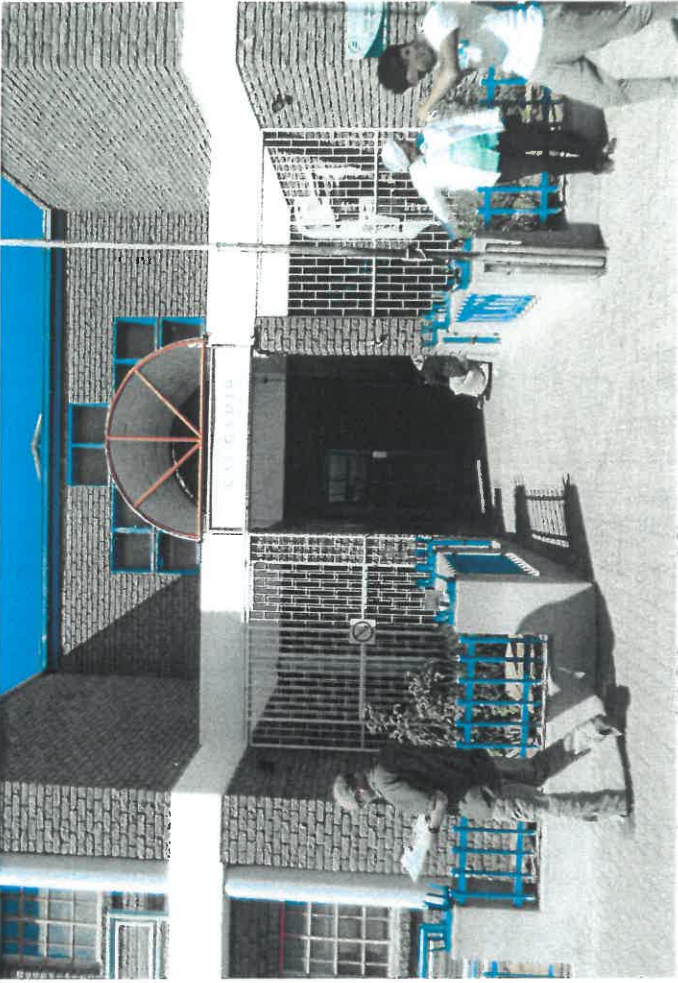
Includes a map showing the location of the quarry in Kakamas, with labels for "Kakamas", "Verneuijk Pan Trust", and "Proposed Quarry Site".

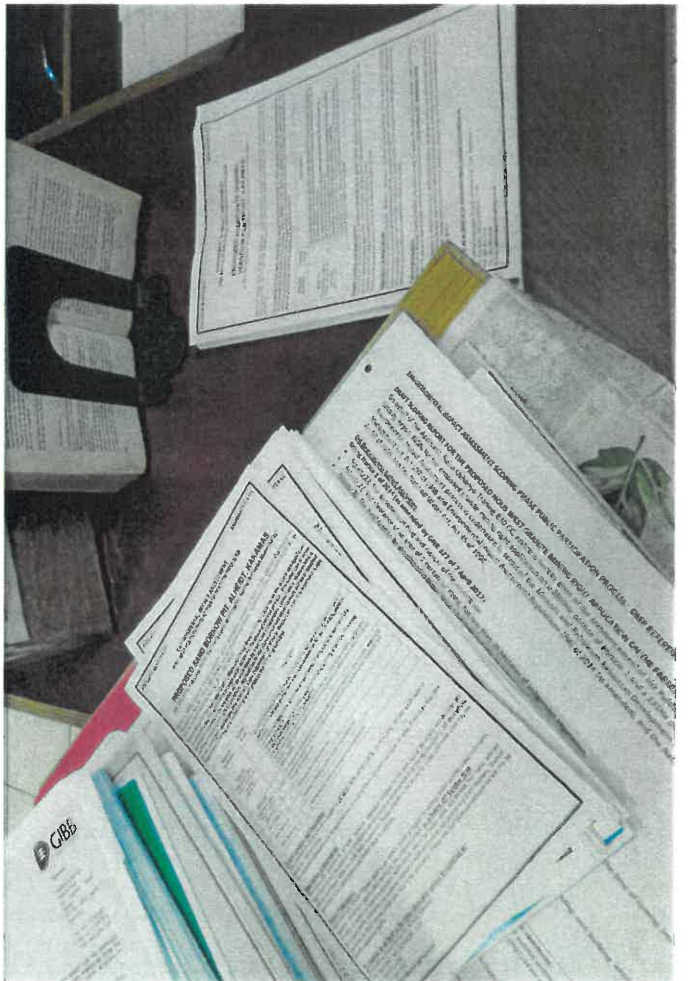
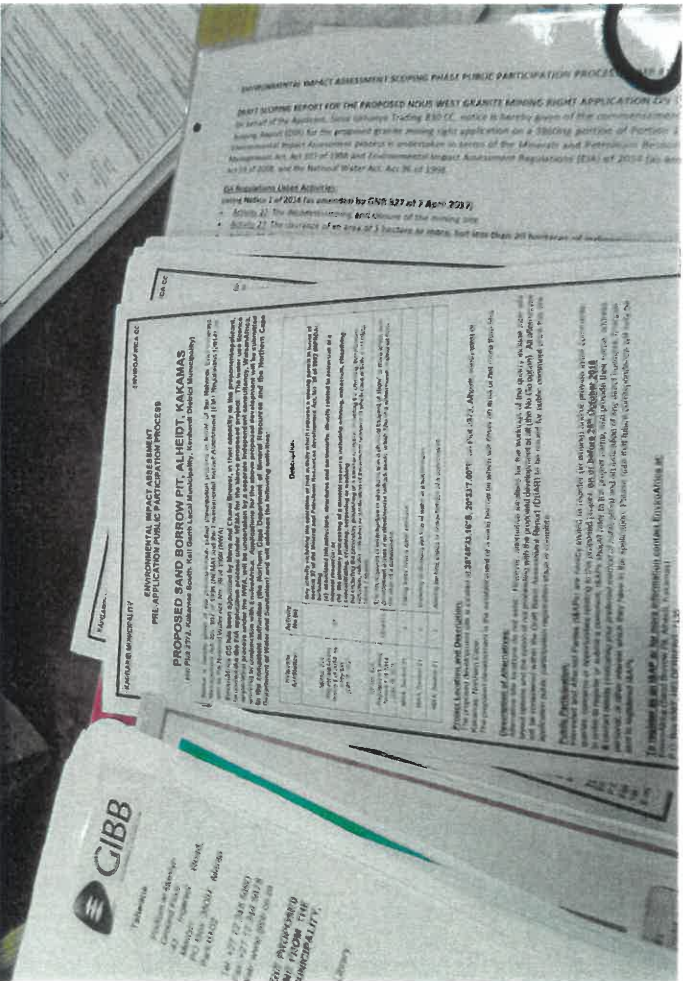
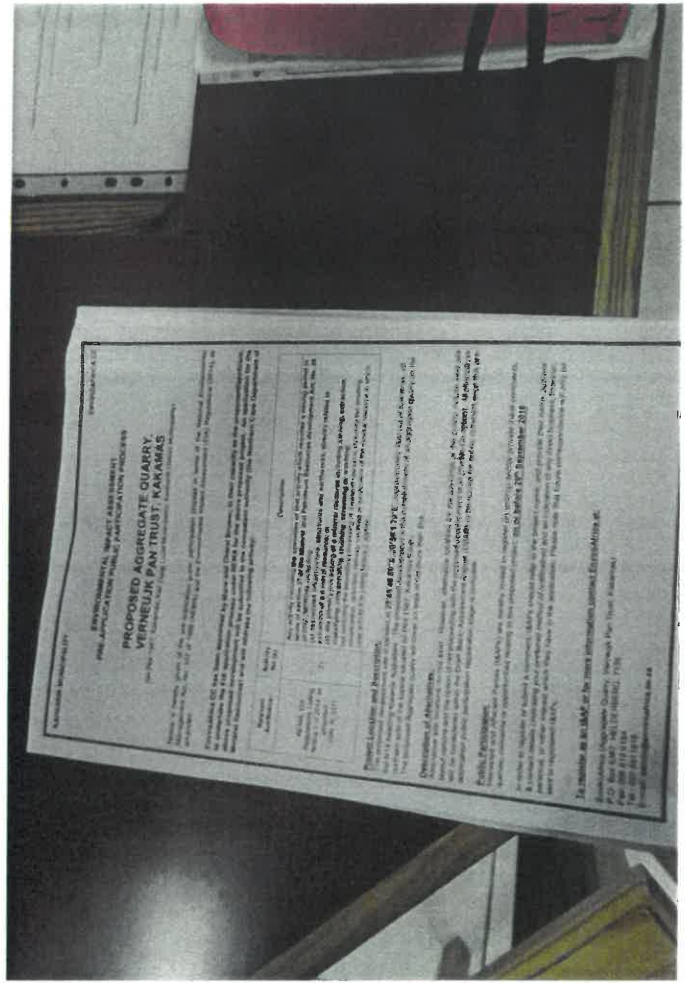


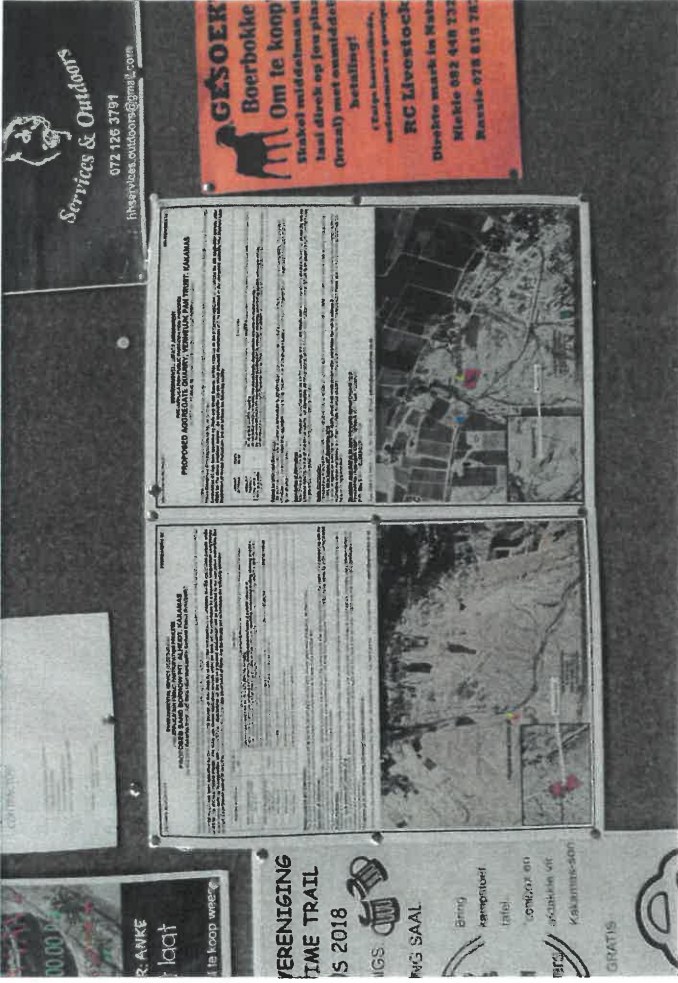
This pre-application public participation registration map is a copy of the pre-application public participation registration map as submitted to the Department of Environmental Affairs and Forestry (DEAF) on 14 September 2011. The map is subject to the provisions of the Environmental Management Act (EMA) and the Environmental Management Regulations (EMR) and is not intended to be used for any other purpose. Please note that future correspondence will only be sent to registered LAMPs.

It is requested that you contact the following contact person for more information:
 Environmental Affairs (Anting) County, Yunnan, China Trust, Kuyin
 P.O. Box 5307, HELDENBERG, 7435
 Fax: 086 512 0154 Tel: 021 8519110 Email: admin@envinfrica.co.za









Impact Assessment

PROJECT IMPACT ASSESSMENT, SIGNIFICANCE AND MITIGATION MEASURES SUMMARY

The following impact rating approach used by Enviro Africa CC is a basic exponential rating system to assess actual and potential negative environmental impacts.

Positive environmental impacts are also listed. All positive impacts need to be enhanced or increased where possible but positive impacts are not rated or given a score since the rating is based on risks.

Environmental activities or aspects are identified, based on:

- the phases of the project,
- the nature (or description) of the actual and potential impacts of the activities.

For every project activity or aspect, various environmental impacts are listed. Every negative impact is allocated a value as per each of the following criteria:

- Likelihood (Probability)
- Extent (Severity)
- Duration (Frequency)
- Consequence (Receiving Environment and Toxicity)

Once a value is allocated for each of the criterion, the scores are averaged to determine the final impact rating see Table 1 below.

Enviro Africa then further assesses environmental significance, based on the nature of the impact, as per the score and colour key which forms part of Table 1 below. This results in impacts having either a low (indicated in green), medium (indicated in yellow) or high (indicated in orange and red) significance.

- Note:**
- i. One environmental aspect or project activity e.g. site clearance may have multiple impacts in different areas.
 - ii. The various impacts per aspect/project activity are documented in the Quantification of Aspects and Impact/s Significance Rating form (Table 2 Annexure B).
 - iii. As a baseline, impact rating values/scores are allocated taking the **worst case** scenario into account i.e. with no mitigation. The baseline rating is compared with those after mitigation has been taken into account i.e. the post-mitigation rating. Post mitigation rating is used for the actual impact assessment.

SIGNIFICANCE CRITERIA	Very High	Moderately High	Medium	Moderately Medium	Low	Very Low	Score
Value	32	16	8	4	2	1	
Likelihood / Probability (L/P)	Impact will definitely occur	Very likely for impact to occur	Impact may occur once annually	Impact may occur less than once annually but at least twice every five years	Impact may occur one to two times (maximum) in project's life	Very unlikely for impact to occur / Impact will not occur	
Extent / Severity (E/S)	Impact potentially reaches beyond national boundaries	Impact has definite provincial potential national consequences	Impact will potentially affect neighbouring province	Impact confined to local province	Impact confined to local region but not province wide	Impact confined to project property / site	
Duration / Frequency (D/F)	Continual / daily occurrence	Impact will occur once a week	Impact will occur once a month	Impact will occur once a year	Impact will occur once every ten years	Possible that impact will never occur in Project's	
Consequence: Receiving environment (C: RE)	Very sensitive, pristine area – protected site or species permanently or seasonally present	Unused industrially zoned area containing only indigenous fauna / flora species	Unused industrially zoned area containing indigenous and alien fauna / flora species	Semi-disturbed area already rehabilitated / recovered from prior impact	Disturbed area undergoing rehabilitation / recovering from prior impacts	Disturbed area, already in need of rehabilitation prior to impact	
Consequence: Toxicity (C:T)	Impact is poisonous to natural environment and is not contained - no rehabilitation possible - permanent irreversible impact	Impact is potentially poisonous to natural environment and is not contained – only partial rehabilitation possible – potential permanent irreversible impact	Impact is potentially poisonous to natural environment and is partially contained – some rehabilitation possible and is potentially reversible	Impact is potentially poisonous to natural environment and is partially contained – complete rehabilitation possible	Impact is potentially poisonous to natural environment but is completely contained	Impact is not poisonous to natural environment	
FINAL RATING (average score)							

ENVIRONMENTAL RATING SIGNIFICANCE KEY:

SIGNIFICANCE	RATING	Final rating score / value range
Very Significant	Very High	25 to 32
Significant	High	19 to <25
Increasing Significance ↑	Medium	13 to <19
	Moderately Medium	6 to <13
Insignificant	Low	3 to <6
	Very Low	1 to <3

Table 1: Environmental Significance Rating Methodology (rating criteria and significance key)

A. ASPECT / ACTIVITY: Transport of Equipment / Material to Site (pre-construction site establishment)

No.	IMPACT	L/P	E/S	D/F	C: RE	C: T	Pre-Mitigation Score (Baseline)	L/P	E/S	D/F	C: RE	C: T	Post-Mitigation Score (Impact)	Short Description of Mitigation Measures
1	Particulate and gaseous emissions due to use of vehicles/machinery	16	32	32	1	16	19,4	16	16	32	1	16	16,2	Vehicles serviced regularly/well maintained. Vehicles not allowed to idle for extended periods. Routine site and vehicle checks. Dust suppression to be used if possible, should continuous dust emissions occur. Fugitive particulate emissions minimised by enforcing speed limits on dirt roads and by limiting excavation to non-peak traffic period on local regional (dirt) road to avoid dust clouds over public roads.
2	Potential impedance of normal traffic flow on main access road	16	8	4	4	2	6,8	16	8	4	2	2	6,4	Comply with legislative requirements. If necessary, use traffic controllers. Avoid transpotation of sand during peak traffic times.
3	Animal/human interaction/accident with vehicles	32	2	1	8	2	9	8	2	1	8	2	4,2	Training and awareness regarding road safety. Routine checks to ensure vehicles in good condition.
4	Vehicle accident	16	8	4	1	2	6,2	8	8	4	1	2	4,6	Training and awareness regarding road safety. Routine checks to ensure vehicles in good condition.
5	Spillages of fuel/oil/HCSs from vehicles/vehicle loads	32	2	4	32	4	14,8	16	2	4	32	4	11,6	Training and awareness regarding use and storage of fuel/oil/HCSs. Adequate drip trays and spill clean up kits provided. Routine monitoring of vehicle loads and vehicles for leaks.
6	Noise from heavy vehicles	32	2	16	1	1	10,4	16	1	16	1	1	7	Ensure vehicle exhaust pipes in good condition. Vehicles not to be used outside of normal working hours.
7	Potential littering along route from drivers/personnel in vehicles	32	16	16	8	1	14,6	16	2	16	2	1	7,4	Training and awareness regarding littering. Provision of rubbish bags for inside vehicle when travelling.
8	Impact of slowed traffic due to trucks transporting sand on public roads	16	16	8	1	1	8,4	8	16	4	1	1	6	Limit transport of trucks to non-peak traffic times if possible. Avoid built up areas during peak traffic times.
9	Aesthetic/visual impact of stored/parked vehicles and equipment	32	1	32	1	1	13,4	16	1	16	1	1	7	Park vehicles and daily store of equipment at designated areas on site using natural topography/vegetation/buildings as screens.
10	Environmental training/awareness e.g. at on-site start up													

B. ASPECT / ACTIVITY: Site Clearance/Topsail

No.	IMPACT	L/P	E/S	D/F	C: RE	C: T	Pre-Mitigation Score (Baseline)	L/P	E/S	D/F	C: RE	C: T	Post-Mitigation Score (Impact)	Short Description of Mitigation Measures
1	Negative impact on protected trees/plants/fauna during site clearance	32	1	32	32	32	25,8	16	1	4	8	16	9	Demarcation of protected trees/trees to be avoided, or for which permits must be applied to allow correct removal and/or relocation (as per biodiversity specialist report). Designation of no-go areas on site to protect flora/trees to be defined at on-site start up meeting. Environmental awareness/training. Routine site compliance checks.
2	Gaseous emissions due to use of vehicles/machinery	16	32	32	1	16	19,4	16	16	32	1	16	16,2	Vehicles serviced regularly/well maintained. Vehicles not allowed to idle for extended periods. Routine site and vehicle checks.
3	Dust (particulate) emission generation	32	8	32	1	32	21	16	4	32	1	16	13,8	Utilisation of dust suppression to be used if possible, should continuous dust emissions occur. Fugitive particulate emissions minimised by enforcing speed limits on dirt roads. Vehicles confined to roads only. Vehicles serviced regularly/well maintained. Vehicles not allowed to idle for extended periods. Routine site and vehicle checks.
4	Indigenous biodiversity (flora) removal	32	2	16	32	8	18	32	1	4	8	1	9,2	Demarcation of protected trees/trees to be avoided, or for which permits must be applied to allow correct removal and/or relocation (as per biodiversity specialist report). Designation of no-go areas on site to protect flora/trees to be defined at on-site start up meeting. Environmental awareness/training. Routine site compliance checks.
5	Alien biodiversity (flora) removal													
6	Topsail removal/stockpiling	32	2	16	8	1	11,8	32	1	16	8	1	11,6	Topsail management plan to be in place at on-site start up meeting in line with specialist reports. Routine site checks to ensure compliance.
7	Habitat loss (effect on fauna)	32	1	4	8	1	9,2	32	1	4	8	1	9,2	Due to the nature of the development, habitat loss will take place irrespective of mitigation measures.
8	Animal interaction/fatalities	16	1	16	8	1	8,4	16	1	4	8	1	6	Designation of no-go areas on site to be defined at on-site start up meeting.Environmental awareness/training. Routine site compliance checks.
9	Heritage discovery (archaeological or palaeontological) due to excavation	8	1	4	8	1	4,4	2	1	2	8	1	2,8	Designation of no-go areas on site to be defined, if required at site meeting. Environmental awareness/training. Routine site compliance checks as per EMPr.
10	Visual impact of site clearance/dust	32	2	32	1	1	13,6	16	2	32	1	1	10,4	Utilisation of dust suppression on roads if required. Fugitive particulate emissions minimised by enforcing speed limits on dirt roads. Vehicles confined to roads only. Vehicles serviced regularly/well maintained. Vehicles not allowed to idle for extended periods. Routine site and vehicle checks.
11	Local employment opportunities													Current employees (2-4 persons) of CA Konstruksies will be provided with further employment.
12	Environmental training/awareness e.g. at on-site start up meeting													

C. ASPECT / ACTIVITY: Construction and Operation

No.	IMPACT	L/P	E/S	D/F	C: RE	C: T	Pre-Mitigation Score (Baseline)	L/P	E/S	D/F	C: RE	C: T	Post-Mitigation Score (Impact assessment)	Short Description of Mitigation Measures
1	Poor access control/fencing	32	1	32	8	1	14,8	2	11	4	8	1	5,2	Secure fencing of site to take place before any materials/equipment brought to site. Access to be controlled via locked gate and security services.
2	Demarcation of areas to be excavated	32	2	8	1	1	8,8	32	1	4	1	1	7,8	Excavation "blocks" or 'strips' must be clearly defined before any material/equipment arrives on site. Excavation areas to be in-line with specialist recommendations. Routine site inspection for adherence to demarcated area parameters.
3	Ablutions for site labour (non-adherence to designated areas)	32	2	32	1	8	15	32	1	16	1	1	10,2	Training and awareness regarding designated abluition areas and need for adherence. Provision of sufficient abluitions area in line with legal requirements on site. Ad hoc site visits to check compliance in line with training.
4	Littering	32	16	16	8	1	14,6	16	2	16	2	1	7,4	Training and awareness regarding littering. Provision of sufficient rubbish bins/bin bags on site and routine removal of bins/bags to a registered waste site. Ad hoc checks to ensure compliance in line with training.
5	Habitat loss (effect on fauna)	32	1	4	8	1	9,2	32	1	4	8	1	9,2	Due to the nature of the development, habitat loss will take place irrespective of mitigation measures.
6	Animal interaction/fatalities	16	1	16	8	1	8,4	16	1	4	8	1	6	Designation of no-go areas on site to be defined at on-site start up meeting. Environmental awareness/training. Routine site compliance checks.
7	Aesthetic impact during construction	32	2	2	1	1	7,6	16	2	2	1	1	4,4	Park vehicles and temporary/daily use storage of equipment at designated areas on site using natural topography/vegetation as screens. Fugitive particulate emissions minimised by enforcing speed limits on dirt roads and using dust suppression on roads, if required. Vehicles confined to roads only. Routine site and vehicle checks.
8	Resource use: water	32	1	32	2	1	13,6	32	1	32	2	1	13,6	Training and awareness regarding sound water use/management. Storm water management plan in place (as per specialist report) at on-site start up meeting. Ad hoc checks to ensure compliance in line with training and management plans/programmes.
9	Resource use: land	32	2	32	8	1	15	32	1	32	2	1	13,6	Training and awareness regarding land management on site. Ad hoc checks to ensure compliance in line with training and management plans/programmes.
10	Resource use: hydrocarbons/fuels	32	2	32	8	16	18	32	2	32	8	2	15,2	Training and awareness regarding efficient fuel/hydrocarbon use. Ad hoc checks to ensure compliance in line with training and management plans/programmes.
11	Recycling of waste products where possible													
12	Storage of fuels/hazardous chemical substances	32	2	4	32	4	14,8	16	2	4	32	4	11,6	Training and awareness regarding use and storage of fuel/foils/HCSs. Adequate drip trays and spill clean up kits provided. HCSs and fuel stores stored in line with legal requirements. Routine monitoring of vehicle loads and vehicles for leaks.
13	Noise from heavy vehicles	32	2	16	1	1	10,4	16	1	16	1	1	7	Ensure vehicle exhaust pipes in good condition. Vehicles not to be used outside of normal working hours.
14	Training/Skills transfer													
15	Local employment opportunities													

D. ASPECT / ACTIVITY: Operation and Maintenance

No.	IMPACT	L/P	E/S	D/F	C: RE	C: T	Pre-Mitigation Score (Baseline)	L/P	E/S	D/F	C: RE	C: T	Post-Mitigation Score (Impact assessment)	Short Description of Mitigation Measures
1	Poor access control/fencing	32	1	32	8	1	14,8	2	11	4	8	1	5,2	Secure fencing of site to take place before any materials/equipment brought to site. Access to be controlled via locked gate and security services.
2	Demarcation of areas to be excavated	32	2	8	1	1	8,8	32	1	4	1	1	7,8	Excavation 'blocks' or 'strips' must be clearly defined before any material/equipment arrives on site. Excavation areas to be in-line with specialist recommendations. Routine site inspection for adherence to demarcated area parameters.
3	Ablutions for site labour (non-adherence to designated areas)	32	2	32	1	8	15	32	1	16	1	1	10,2	Training and awareness regarding designated ablation areas and need for adherence. Provision of sufficient ablutions area in line with legal requirements on site. Ad hoc site visits to check compliance in line with training.
4	Littering	32	16	16	8	1	14,6	16	2	16	2	1	7,4	Training and awareness regarding littering. Provision of sufficient rubbish bins/bin bags on site and routine removal of bins/bags to a registered waste site. Ad hoc checks to ensure compliance in line with training.
5	Habitat loss (effect on fauna)	32	1	4	8	1	9,2	32	1	4	8	1	9,2	Due to the nature of the development, habitat loss will take place irrespective of mitigation measures.
6	Animal interaction/fatalities	16	1	16	8	1	8,4	16	1	4	8	1	6	Designation of no-go areas on site to be defined at on-site start up meeting. Environmental awareness/training. Routine site compliance checks.
7	Aesthetic impact during construction	32	2	2	1	1	7,6	16	2	2	1	1	4,4	Park vehicles and temporary/daily use storage of equipment at designated areas on site using natural topography/vegetation as screens. Fugitive particulate emissions minimised by enforcing speed limits on dirt roads and using dust suppression on roads, if required. Vehicles confined to roads only. Routine site and vehicle checks.
8	Resource use: water	32	1	32	2	1	13,6	32	1	32	2	1	13,6	Training and awareness regarding sound water use/management. Storm water management plan in place (as per specialist report) at on-site start up meeting. Ad hoc checks to ensure compliance in line with training and management plans/programmes.
9	Resource use: land	32	2	32	8	1	15	32	1	32	2	1	13,6	Training and awareness regarding land management on site. Ad hoc checks to ensure compliance in line with training and management plans/programmes.
10	Resource use: hydrocarbons/fuels	32	2	32	8	16	18	32	2	32	8	2	15,2	Training and awareness regarding efficient fuel/hydrocarbon use. Ad hoc checks to ensure compliance in line with training and management plans/programmes.
11	Recycling of waste products where possible													
12	Storage of fuels/hazardous chemical substances	32	2	4	32	4	14,8	16	2	4	32	4	11,6	Training and awareness regarding use and storage of fuel/oil/HCSs. Adequate drip trays and spill clean up kits provided. HCSs and fuel stores stored in line with legal requirements. Routine monitoring of vehicle loads and vehicles for leaks.
13	Noise from heavy vehicles	32	2	16	1	1	10,4	16	1	16	1	1	7	Ensure vehicle exhaust pipes in good condition. Vehicles not to be used outside of normal working hours.
14	Training/Skills transfer													
15	Local employment opportunities													

E. ASPECT / ACTIVITY: Decommissioning/Demolition

No.	IMPACT	L/P	E/S	D/F	C: RE	C: T	Pre-Mitigation Score (Baseline)	L/P	E/S	D/F	C: RE	C: T	Post-Mitigation Score (Impact assessment)	Short Description of Mitigation Measures
1	Poor access control/fencing	32	1	32	8	1	14,8	2	11	4	8	1	5,2	Ensure site securely fenced before any materials/equipment is demolished. Access to be controlled via locked gate and security services.
2	Demarcation of areas requiring additional landscaping/rehabilitation	32	2	8	1	1	8,8	32	1	4	1	1	7,8	Rehabilitation/landscaping of excavated areas to be on-going as operations continue. Topsoil to be replaced and contouring/sloping to be as per site-management plan and specialists reports. Routine site inspection for adherence to lay down area parameters.
3	Ablutions for site labour (non-adherence to designated areas)	32	2	32	1	8	15	32	1	16	1	1	10,2	Training and awareness regarding designated abluition areas and need for adherence. Provision of sufficient abluitions area in line with legal requirements on site. Ad hoc site visits to check compliance in line with training.
4	Littering	32	16	16	8	1	14,6	16	2	16	2	1	7,4	Training and awareness regarding littering. Provision of sufficient rubbish bins on site. Ad hoc checks to ensure compliance in line with training.
5	Effect on fauna (continued habitat loss)	32	1	4	8	1	9,2	8	1	4	8	1	4,4	Rehabilitation and revegetation/seedling programme to be finalised before decommissioning takes place. Routine site checks/visits to ensure rehabilitation plan implemented to regain natural habitat.
6	Animal interaction/fatalities	16	1	16	8	1	8,4	16	1	4	8	1	6	Designation of no-go areas on site to be defined at on-site start up meeting. Environmental awareness/training. Routine site compliance checks.
7	Aesthetic impact during demolition/decommissioning	32	2	2	1	1	7,6	16	2	2	1	1	4,4	Use natural topography where possible to screen final layout of solar PV panels. Panels low to the ground to avoid excessive visual impact. Park vehicles and store equipment at designated areas on site using natural topography/vegetation/ buildings as screens. Fugitive particulate emissions minimised by enforcing speed limits on dirt roads and using dust suppression on roads. Vehicles confined to roads only. Routine site and vehicle checks.
8	Resource use: water	32	1	32	2	1	13,6	32	1	32	2	1	13,6	Training and awareness regarding sound water use/management. Storm water management plan in place at on-site start up meeting. Ad hoc checks to ensure compliance in line with training and management plans/programmes.
9	Resource use: land	32	2	32	8	1	15	32	1	32	2	1	13,6	Training and awareness regarding land management on site. Ad hoc checks to ensure compliance in line with training and management plans/programmes.
10	Resource use: hydrocarbons/fuels	32	2	32	8	16	18	32	2	32	8	2	15,2	Training and awareness regarding efficient fuel/hydrocarbon use. Ad hoc checks to ensure compliance in line with training and management plans/programmes.
11	Recycling of waste products where possible													
12	Storage of fuels/hazardous chemical substances	32	2	4	32	4	14,8	16	2	4	32	4	11,6	Training and awareness regarding use and storage of fuel/oil/HCSs. Adequate drip trays and spill clean up kits provided. HCSs and fuel stores stored in line with legal requirements. Routine monitoring of vehicle loads and vehicles for leaks.
13	Noise from heavy vehicles	32	2	16	1	1	10,4	16	1	16	1	1	7	Ensure vehicle exhaust pipes in good condition. Vehicles not to be used outside of normal working hours.
14	Training/Skills transfer													
15	Local employment opportunities													