DRAFT BASIC ASSESSMENT REPORT

for

KENHARDT ACCESS ROAD

on

The Remaining Extent and Portion 4 of Onder Rugzeer Farm 168, North East of Kenhardt, Northern Cape Province

In terms of the

National Environmental Management Act (Act No. 107 of 1998, as amended) & 2014 Environmental Impact Regulations

Prepared for Applicant: Kenhardt Access Road (Pty) Ltd

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Report Reference: KAI663b/02
Department Reference: NC/BA/02/ZFM/!KHE/KEN1/2021
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PURPOSE OF THIS REPORT:

Stakeholder Review and Comment

APPLICANT:

Kenhardt Access Road (Pty) Ltd

CAPE EAPRAC REFERENCE NO:

KAI663b/02

PUBLIC PARTICIPATION

By participating in this environmental process, whether it be through written submissions, telephonic enquiries, registrations or attendance of meetings, you are automatically giving consent for your full contact details and/or any submissions/inputs to be used and published in all matters pertaining to this application i.e. reports/notifications/communication for review or decision-making.

DOCUMENT TRACKING

DOCUMENT HISTORY

DOC REF	REVISION	AUTHOR
KAI663b/01	Application form	Mr Dale Holder
KAI663b/02	Draft Basic Assessment Report	Mr Dale Holder
KAI663b/03	Draft Environmental Management Programme.	Mr Dale Holder

APPROVAL FOR RELEASE

NAME	TITLE	SIGNATURE
Mr Dale Holder	Senior Consultant: Cape EAPrac	

DISTRIBUTION

DESIGNATION	NAME	EMAIL / FAX
Northern Cape Department of Environment and Nature Conservation	Registry	Via Courier: 90 Long Street, Sasko Building, KIMBERLEY,8300
Scatec Solar SA 330 (Pty) Ltd	Sonia Miszczak	Sonia.misczak@scatec.com
Registered and Potential Interested and Affected Parties.	As per I&AP register Annexure F1.	As per I&AP register Annexure F1

DRAFT BASIC ASSESSMENT REPORT

in terms of the
National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended &
Environmental Impact Regulations 2014

Kenhardt Access Road

The Remaining Extent and Portion 4 of Onder Rugzeer Farm 168, North East of Kenhardt, Northern Cape Province

Submitted for:
Stakeholder Review & Comment

Report Issued by:
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Appendix 1 of the 2014 EIA Regulations (as amended) contains the required contents of a Basic Assessment Report. The checklist below serves as a summary of how these requirements were incorporated into this Basic Assessment Report.

Requirement	***Details***
(a) Details of - *(i) The EAP who prepared the report; and* *(ii) The expertise of the EAP, including, curriculum vitae.* *(iii) Applicant Details*	(i) Mr Dale Holder (ii) Ndip NatCon, 16 years' experience in Environmental Management, CV attached in Appendix H (iii) Scatec Solar SA 330 (Pty) Ltd
(b) The location of the activity, including – *(i) The 21 digit Surveyor General code of each cadastral land parcel;* *(ii) Where available, the physical address and farm name;* *(iii) Where the required information in items (i) and (ii) is not available, the coordinates of the boundary of the property or properties.*	(i) C03600000000016800000 C03600000000016800004 (ii) The Remaining Extent and Portion 4 of Onder Rugzeer Farm 168, North East of Kenhardt, Northern Cape Province.
(c) a plan which locates the proposed activity or activities applied for as well as the associated structures and infrastructure at an appropriate scale, or, if it is *(i) A linear activity, a description and coordinates of the corridor in which the proposed activity or activities is to be undertaken; or* *(ii) On land where the property has not been defined, the coordinates within which the activity is to be undertaken.*	(i) Please refer to layout plans in Appendices A and C.
(d) a description of the scope of the proposed activity, including - *(i) All listed and specified activities triggered and being applied for; and* *(ii) A description of the activities to be undertaken including associated structures and infrastructure.*	(i) Please refer to Heading 2 in Section A of this report (ii) Please refer to Heading 2 in Section A of this report
(e) A description of the policy and legislative context within which the development is proposed, including – *(i) An identification of all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks, and instruments that are applicable to this activity and have been considered in the preparation of the report; and* *(ii) How the proposed activity complies with and responds to the legislation and policy context, plans, guidelines, tools frameworks and instruments.*	(i) Please refer to Heading 11 in Section A of this report. (ii) Please refer to Heading 11 in Section A of this report

Requirement	***Details***
(f) A motivation for the need and desirability for the proposed development, including the need and desirability of the activity in the context of the preferred location.	Please refer to Heading 3 in Section A of this report
(g) A motivation for the preferred site, activity and technology alternative.	Please refer to Heading 3 in Section A of this report

(h) A full description of the process followed to reach the proposed preferred alternative within the site, including - *(i) Details of all alternatives considered;* *(ii) Details of the public participation process undertaken in terms of regulation 41 of the Regulations, including copies of the supporting documents and inputs;* *(iii) A summary of the issues raised by interested and affected parties, and an indication of the manner in which the issues were incorporated, or the reasons for not including them;* *(iv) The environmental attributes associated with the alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects;* *(v) The impacts and risks identified for each alternative, including the nature, significance, consequence, extent, duration and probability of the impacts, including the degree to which these impacts:* *(aa) can be reversed;* *(bb) may cause irreplaceable loss of resources; and* *(cc) can be avoided, managed or mitigated.* *(vi) The methodology used in determining and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks associated with the alternatives;* *(vii) Positive and negative impacts that the proposed activity and alternatives will have on the environment and on the community that may be affected focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects;* *(viii) The possible mitigation measures that could be applied and level of residual risk;* *(ix) The outcome of the site selection matrix;* *(x) If no alternatives, including alternative locations for the activity were investigated, the motivation for not considering such; and* *(xi) A concluding statement indicating the preferred alternatives, including preferred location of the activity.* *(i) A full description of the process undertaken to identify, assess and rank the impacts the activity will impose on the preferred location through the life of the activity, including –* *(ii) A description of all environmental issues and risks that were identified during the environmental impact assessment process; and* *(iii) An assessment of the significance of each issue and risk and an indication of the extent to which the issue and risk could be avoided or addressed by the adoption of mitigation measures.*	(iv) Heading 3 Section A (v) Section C and Appendices E1 to E6 (vi) Section C3 (vii) Section B (viii) Section D1 (ix) Section D1 (x) Appendix F (xi) Appendix F and Section D1 (xii) Section A3 (xiii) Section A3 (xiv) Section E (xv) Appendix F

Requirement	***Details***
(j) An assessment of each identified potentially significant impact and risk, including - *(i) Cumulative impacts;* *(ii) The nature, significance and consequences of the impact and risk;* *(iii) The extent and duration of the impact and risk;* *(iv) The probability of the impact and risk occurring;* *(v) The degree to which the impact and risk can be reversed;* *(vi) The degree to which the impact and risk may cause irreplaceable loss of resources; and* *(vii) The degree to which the impact and risk can be mitigated.*	Appendix F and Section D1 and 2
(k) Where applicable, a summary of the findings and impact management measures identified in any specialist report complying with Appendix 6 to these Regulations and an indication as to how these findings and recommendations have been included in the final assessment report.	Section D1
(l) An environmental impact statement which contains: *(i) A summary of the key findings of the environmental impact assessment;* *(ii) A map at an appropriate scale which superimposes the proposed activity and its associated structures and infrastructure on the environmental sensitivities of the preferred site indicating any areas that should be avoided, including buffers; and* *(iii) A summary of the positive and negative impacts and risks of the proposed activity and identified alternatives.*	Section D2
(m) Based on the assessment, and where applicable, impact management measures from specialist reports, the recording of proposed impact management objectives, and the impact management outcomes for the development for inclusion in the EMPr.	Appendix G
(n) Any aspects which were conditional to the findings of the assessment either by the EAP or specialist which are to be included as conditions of authorisation.	Section E
(o) A description of assumptions, uncertainties and gaps in knowledge which relate to the assessment and mitigation measures proposed.	Section D
(p) A reasoned opinion as to whether the proposed activity should or should not be authorised, and if the opinion is that it should be authorised, any conditions that should be made in respect of that authorisation.	Section E
(q) Where the proposed activity does not include operational aspects, the period for which the environmental authorisation is required, the date on which the activity will be concluded and the post construction monitoring requirements finalised.	It is requested that the Environmental Authorisation be valid for the full 10 year period contemplated in the regulations. Construction should be completed within 2 years of commencement. The activity does not include any operational activities.
(r) An undertaking under oath or affirmation by the EAP in relation to:	Appendix H

Requirement	***Details***
(i) The correctness of the information provided in the reports; *(ii) The inclusion of comments and inputs rom stakeholders and I&APs;* *(iii) The inclusion of inputs and recommendations from the specialist reports where relevant; and* *(iv) Any information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested and affected parties.*	
(s) Where applicable, details of any financial provisions for the rehabilitation, closure and ongoing post decommissioning management of negative environmental impacts.	Not Applicable
(t) Any specific information that may be required by the competent authority.	The competent authority will be provided with an opportunity to comment on this Draft Basic Assessment Report. Any specific information required by the competent authority should be included in this comment.
(u) Any other matters required in terms of section 24(4)(a) and (b) of the Act.	None to date.

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Environment & Nature Conservation
NORTHERN CAPE PROVINCE
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(For official use only)

Basic Assessment Report in terms of the Environmental Impact Assessment Regulations, 2014, promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended.

Kindly note that:

1. This **basic assessment report** is a standard report that may be required by a competent authority in terms of the EIA Regulations, 2014 and is meant to streamline applications. Please make sure that it is the report used by the particular competent authority for the activity that is being applied for.
2. This report format is current as of 07 April 2017. It is the responsibility of the applicant to ascertain whether subsequent versions of the form have been published or produced by the competent authority
3. The report must be typed within the spaces provided in the form. The size of the spaces provided is not necessarily indicative of the amount of information to be provided. The report is in the form of a table that can extend itself as each space is filled with typing.
4. Where applicable **tick** the boxes that are applicable in the report.
5. An incomplete report may be returned to the applicant for revision.
6. The use of "not applicable" in the report must be done with circumspection because if it is used in respect of material information that is required by the competent authority for assessing the application, it may result in the rejection of the application as provided for in the regulations.
7. This report must be handed in at offices of the relevant competent authority as determined by each authority.
8. No faxed or e-mailed reports will be accepted.
9. The signature of the EAP on the report must be an original signature.
10. The report must be compiled by an independent environmental assessment practitioner.
11. Unless protected by law, all information in the report will become public information on receipt by the competent authority. Any interested and affected party should be provided with the information contained in this report on request, during any stage of the application process.
12. A competent authority may require that for specified types of activities in defined situations only parts of this report need to be completed.
13. Should a specialist report or report on a specialised process be submitted at any stage for any part of this application, the terms of reference for such report must also be submitted.

SECTION A: ACTIVITY INFORMATION

Has a specialist been consulted to assist with the completion of this section?	✓YES	~~NO~~

If YES, please complete the form entitled "Details of specialist and declaration of interest" for the specialist appointed and attach in Appendix I.

2. ACTIVITY DESCRIPTION

a) Describe the project associated with the listed activities applied for

The applicant, Kenhardt Access Road (Pty) Ltd is proposing the construction of an integrated access road that will provide both construction and operational access to the Photovoltaic (PV) energy facilities authorised on Remaining Extent of Onder Rugzeer Farm 168, north-east of Kenhardt, Northern Cape Province. The authorised PV facilities on this property include:

- Kenhardt PV 1 (DEFF Reference: 14/12/16/3/3/2/837);
- Kenhardt PV 2 (DEFF Reference: 14/12/16/3/3/2/838);
- Kenhardt PV 3 (DEFF Reference: 14/12/16/3/3/2/836);
- Kenhardt PV 4 (DEFF Reference: 14/12/16/3/3/1/2125);
- Kenhardt Solar PV Project 5 (DEFF Reference: 14/12/16/3/3/1/2126); and
- Kenhardt Solar PV Project 6 (DEFF Reference: 14/12/16/3/3/1/2127).

The proposed access road is also associated with 3 Authorised Grid connections as follows:

- Kenhardt PV 1 Grid Connection (DEFF Reference: 14/12/16/3/3/1/1547);
- Kenhardt PV2 Grid Connection (DEFF Reference: 14/12/16/3/3/1/1546); and
- Kenhardt PV3 Grid Connection (DEFF Reference: 14/12/16/3/3/1/1545).

To date, the National Department of Environment, Forestry and Fisheries has been the competent authority on all the EIA applications for the Kenhardt PV Projects (PV Facilities, Substations and Grid Connection), copies of all previous authorisations on this property is attached in Appendix J4.

The proposed road would have a maximum width of 12m (inclusive of side drains and gravel embankments).

The access road will be assessed as a 50m wide corridor to allow for micro-sighting during construction.

b) Provide a detailed description of the listed activities associated with the project as applied for

Listed activity as described in GN 327, 325 and 324	Description of project activity
GN983 Item 12 (ii)(a) & c: The development of—	An access road with a maximum width of 12m as well as associated infrastructure will be constructed over and within proximity to the minor watercourses identified on the property.

(ii) infrastructure or structures with a physical footprint of 100 square metres or more; where such development occurs— (a) within a watercourse; (c) if no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse; —	
GN983 Item 19: The infilling or depositing of any material of more than 10 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 10 cubic metres from a watercourse;	The construction of the access road and its associated infrastructure crossing the minor watercourses will require both the removal and depositing of more than 10 cubic metres of material within these minor watercourses.
GN983 Item 24(ii): The development of a road (ii) with a reserve wider than 13,5 meters, or where no reserve exists where the road is wider than 8 metres;	The Access Road will have a maximum width of 12m.
GN983 Item 28(i): Residential, mixed, retail, commercial, industrial or institutional developments where such land was used for agriculture, game farming, equestrian purposes or afforestation on or after 01 April 1998 and where such development: (i) will occur inside an urban area, where the total land to be developed is bigger than 5 hectares; or	The access road is directly associated with the development of a number of PV developments (considered as a commercial use) on the property. The total area transformed by the proposed access road will exceed 5ha.
GN983 Item 56(ii): The widening of a road by more than 6 metres, or the lengthening of a road by more than 1 kilometre— (ii) where no reserve exists, where the existing road is wider than 8 metres;	The formalisation of the intersection with the Transnet Service road as well as the R383 will require the widening of more than 6m at this intersection.
GN985 Item 4(g)(ii)(ee): The development of a road wider than 4 metres with a reserve less than 13,5 metres. g. Northern Cape ii. Outside urban areas: (ee) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;	A very short section of the preferred access road crosses a CBA2 in the south of the property. The proposed road will be wider than 4m through this CBA.
GNR985 Item 12(g)(ii): The clearance of an area of 300 square metres or more of indigenous vegetation. g. Northern Cape ii. Within critical biodiversity areas identified in bioregional plans;	A very short section of the preferred access road crosses a CBA2 in the south of the property. The proposed road will require the clearance of more than 300 square metres of vegetation.

GNR985 Item 14(ii)(c)(g)(ii)(ff): The development of— (ii) infrastructure or structures with a physical footprint of 10 square metres or more; where such development occurs— (c) if no development setback has been adopted, within 32 metres of a watercourse, measured from the edge of a watercourse; g. Northern Cape ii. Outside urban areas: (ff) Critical biodiversity areas or ecosystem service areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;	A very short section of the preferred access road crosses a CBA2 in the south of the property. The access road in this section will exceed 10 square metres and will be within 32m of a minor watercourse.
GNR985 Item 18(g)(ii)(ee)(ii): The widening of a road by more than 4 metres, or the lengthening of a road by more than 1 kilometre. g. Northern Cape ii. Outside urban areas: (ee) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans; (ii) Areas within a watercourse or wetland; or within 100 metres from the edge of a watercourse or wetland; or	The Southern section of the road is within a CBA2. The intersection with the R383 will be widened by more than 4m at this point.

3. FEASIBLE AND REASONABLE ALTERNATIVES

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

(a) the property on which or location where it is proposed to undertake the activity;

(b) the type of activity to be undertaken;

(c) the design or layout of the activity;

(d) the technology to be used in the activity;

(e) the operational aspects of the activity; and

(f) the option of not implementing the activity.

Describe alternatives that are considered in this application as required by Appendix 1 (3)(h), Regulation 2014. Alternatives should include a consideration of all possible means by which the purpose and need of the proposed activity (NOT PROJECT) could be accomplished in the specific instance taking account

of the interest of the applicant in the activity. The no-go alternative must in all cases be included in the assessment phase as the baseline against which the impacts of the other alternatives are assessed.

The determination of whether site or activity (including different processes, etc.) or both is appropriate needs to be informed by the specific circumstances of the activity and its environment. After receipt of this report the, competent authority may also request the applicant to assess additional alternatives that could possibly accomplish the purpose and need of the proposed activity if it is clear that realistic alternatives have not been considered to a reasonable extent.

Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in degrees, minutes and seconds. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection.

a) Site alternatives

Kindly note that site alternatives are not under consideration as part of this Application and Basic Assessment Process. The proposed Kenhardt access road is specifically required to provide access to a number of PV facilities authorised on the Remaining Extent of Onder Rugzeer Farm 168. Consideration of an alternative site would not be feasible. Alternative alignments for the road are discussed in b below under "layout alternatives".

~~**Alternative 1 (preferred alternative)**~~		
~~Description~~	~~Lat (DDMMSS)~~	~~Long (DDMMSS)~~
~~**Alternative 2**~~		
~~Description~~	~~Lat (DDMMSS)~~	~~Long (DDMMSS)~~
~~**Alternative 3**~~		
~~Description~~	~~Lat (DDMMSS)~~	~~Long (DDMMSS)~~

~~In the case of linear activities:~~

Alternative:	**Latitude (S):**	**Longitude (E):**
Alternative C (preferred)		
• Starting point of the activity	29° 16' 28.24"	21° 18' 53.31"
• Middle/Additional point of the activity	29° 14' 22.30"	21° 18' 05.05"
• End point of the activity	29° 11' 11.22"	21° 18' 15.02"
Alternative A		
• Starting point of the activity	29° 19' 48.00"	21° 09' 14.72"
• Middle/Additional point of the activity	29° 15' 34.99"	21° 14' 12.25"

• End point of the activity	29° 10’ 59.80”	21° 18’ 30.73”

Alternative B

• Starting point of the activity	29° 16’ 20.76”	21° 19’ 12.43”
• Middle/Additional point of the activity	29° 13’ 50.77”	21° 19’ 03.45”
• End point of the activity	29° 16’ 28.24”	21° 18’ 53.31”

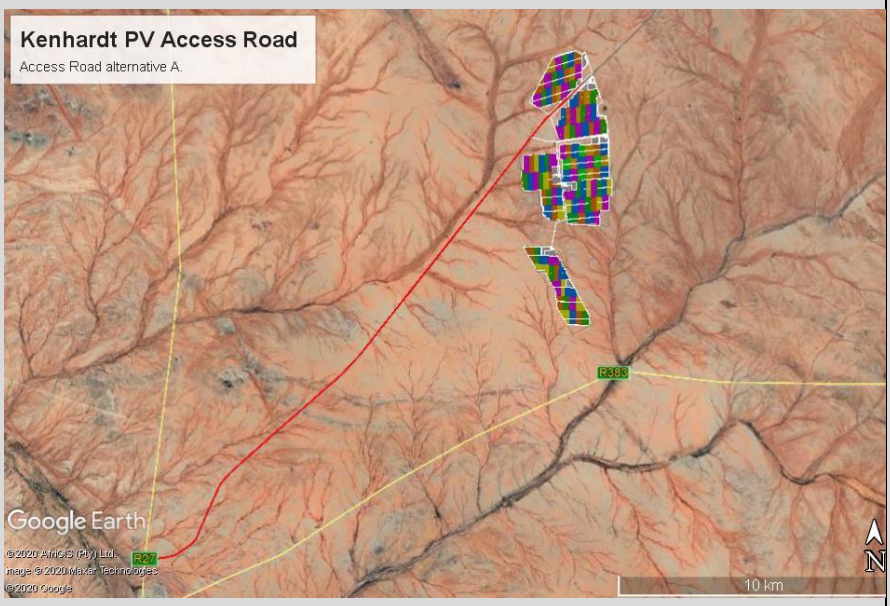
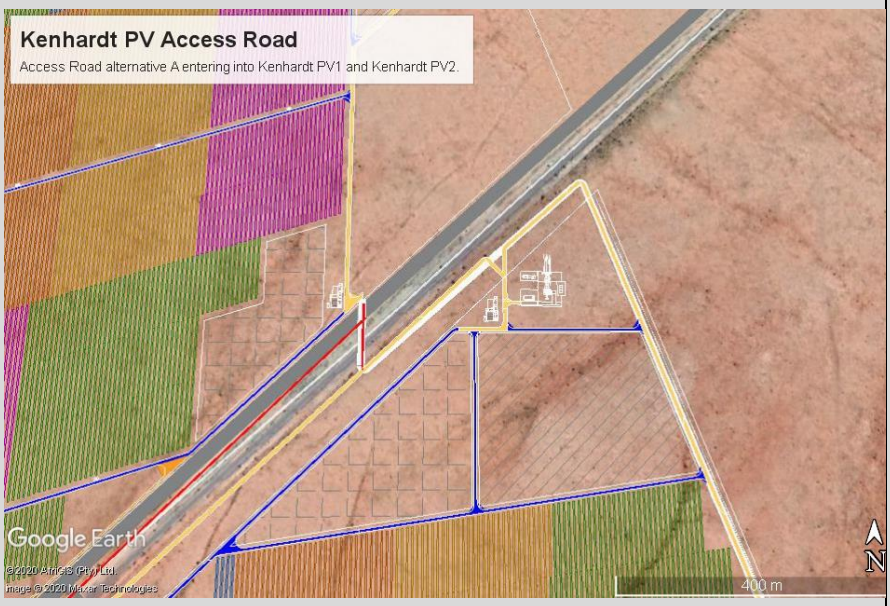
For route alternatives that are longer than 500m, please provide an addendum with co-ordinates taken every 250 meters along the route for each alternative alignment.

In the case of an area being under application, please provide the co-ordinates of the corners of the site as indicated on the lay-out map provided in Appendix A of this form.

b) Lay-out alternatives

Alternative C (preferred alternative)		
Description	Lat [1] (DDMMSS)	Long (DDMMSS)
The preferred alternative, Access road alternative C is proposed to start at a new access point along the R383. From there it runs along the southern and eastern boundary of Kenhardt PV6 and between Kenhardt PV5 and PV 4,3 and 2 before crossing the Transnet service road to access Kenhardt PV1. It also includes a short lateral link to access the substation on Kenhardt PV3. 	29° 14’ 22.30”	21° 18’ 05.05”

[1] The co-ordinates reflected in this table constitute the approximate middle point of each of the alternative alignments

Alternative A		
Description	Lat (DDMMSS)	Long (DDMMSS)
Access road alternative A utilises an existing Transnet service road from the R27 to the project site between Kenhardt PV1 and Kenhardt PV2 as per the image below. This access is approximately 23 kilometres in length.  Access road alternative A will enter the projects sites at Kenhardt PV1 and Kenhardt PV2 as indicated in the image below.  From this point it will utilise the internal road network of the Kenhardt PV 2 project to access the projects to the South.	29° 15' 34.99"	21° 14' 12.25"

Although this road is largely existing, it would have to be significantly upgraded, including widening, change of horizontal alignments and the formalisation of multiple watercourse crossings		
Alternative B		
Description	Lat (DDMMSS)	Long (DDMMSS)
Access road Alternative B utilises the existing farm track that runs from the R383 in a northerly direction to the Transnet service road as shown in the image below.  Although this road is existing, it would have to be significantly upgraded from its current status as a farm track (upgrades would include the widening, change of horizontal alignments and the formalisation of multiple watercourse crossings).	29° 13' 50.77"	21° 19' 03.45"

c) Technology alternatives

Alternative 1 (preferred alternative)
Only a single technology alternative is under consideration. The access road will consist of the following: • driving surface (Crowned), • shoulder area that slopes directly away from the edge of the driving surface, and • stormwater management structures. The extent and type of the stormwater management structures is at the discretion of the design engineer depending on the erosive quality of the soil, water velocities and any other factors required to design such a structure. The intention at this stage is for the access road to remain with a gravel wearing course – this environmental process however does not exclude the option of surfacing the road at a later stage in the future. Such potential surfacing will not change any of the outcomes of this environmental assessment.

Alternative 2
None
Alternative 3
None

d) Other alternatives (e.g. scheduling, demand, input, scale and design alternatives)

Alternative 1 (preferred alternative)
None
Alternative 2
None
Alternative 3
None

e) No-go alternative

The no-go alternative (i.e. the option of not proceeding with the activities in this environmental process) in this instance would be to construct the various access roads as already authorised as part of the PV developments on the property. This would entail the upgrade (widening and formalisation) of both Alternative A and alternative B as discussed above as well the construction of additional internal roads within the authorised PV facilities. The no-go alternative is the least preferred due to the following reasons:

1. The ownership of sections of the access are part of a Transnet servitude over multiple properties.

2. The road is excessively long.

3. Sections of the access are used by Transnet as a service road for the Sishen - Saldanha railway line. Additional traffic generated during construction may not be supported by Transnet.

4. The authorised accesses crosses and will impact upon numerous watercourses.

The Preferred access road has been designed in such a manner as to provide optimal access to all 6 authorised projects with the shortest possible length, while avoiding all major watercourses on the property. As such, it is considered preferable to the no-go alternative.

The no go alternative, even though less desirable from an ecological point of view, will be used as a baseline against which impacts will be assessed.

Paragraphs 4 – 13 below should be completed for each alternative.

4. PHYSICAL SIZE OF THE ACTIVITY

a) Indicate the physical size of the preferred activity/technology as well as alternative activities/technologies (footprints):

~~Alternative:~~	~~Size of the activity:~~
~~Alternative A1 (preferred activity alternative)~~	~~m²~~
~~Alternative A2 (if any)~~	~~m²~~
~~Alternative A3 (if any)~~	~~m²~~

or, for linear activities:

Alternative:	**Length of the activity:**
Alternative C (preferred alternative)	13000m
Alternative A (if any)	23000m
Alternative B (if any)	10000m

b) Indicate the size of the alternative sites or servitudes (within which the above footprints will occur):

Alternative:	**Size of the site/servitude[2]:**
Alternative C (preferred alternative)	Up to a maximum of 176400m²
Alternative A (if any)	276000m²
Alternative B (if any)	12000m²

5. SITE ACCESS

Does ready access to the site exist?	✓YES	~~NO~~
If NO, what is the distance over which a new access road will be built		~~m~~

[2] The figures in this table are based on the worst case scenario that the entire length of the access road will be the full 12m width as assessed.

Describe the type of access road planned:

This application and assessment process is specifically for the construction of a new access road, to provide optimised access to a number of PV energy facilities authorised on the remaining extent and Portion 4 of Onder Rugzeer farm 168. All three access road alternatives under consideration are accessible directly from the existing road network in the area. The details of the three alternative access roads are described in of Section A2 above. Please refer to the technical design report attached in appendix D5.

The proposed road would have a maximum width of 12 metres (inclusive of side drains and gravel embankments) and no more than approximately 13 kilometres long. The road would have a gravel surface, however, it will only be known at detailed design phase should any portions of the road require concrete surfacing. In the event that any concrete surfacing is required, this will be completed in line with the environmental management programme as approved by the DENC.

A typical cross-section of the road is shown below:

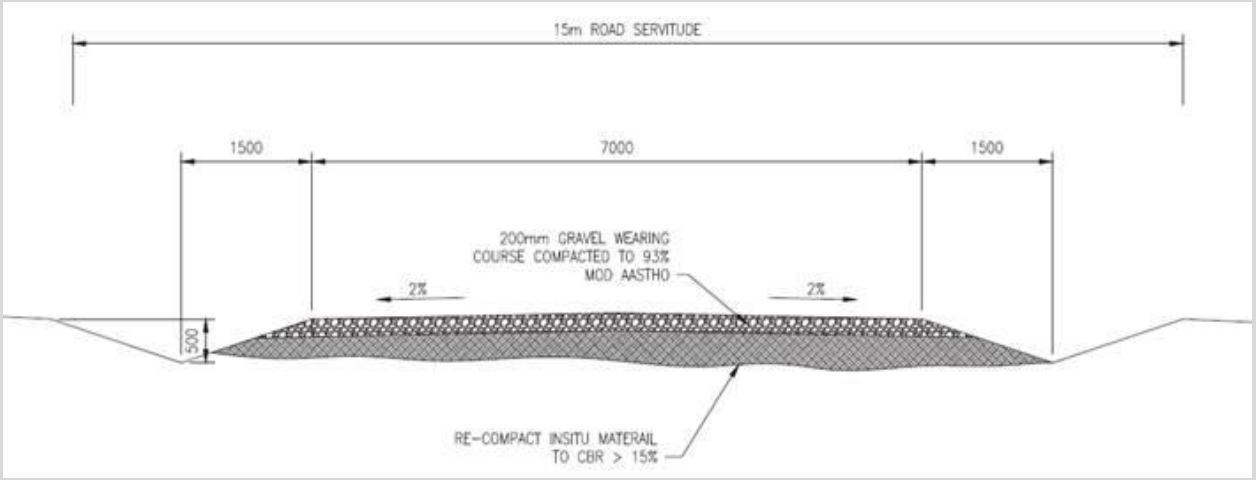


Figure 1: Typical cross section of the proposed Kenhardt Access Road

The road will consist of the following:

(i) a gravel wearing course (driving surface);
(ii) a shoulder area that slopes directly away from the edge of the driving surface; and
(iii) a stormwater furrow. The extent of the stormwater management system, if any, is at the discretion of the design engineer and depends on the erosive quality of the soil. It should be noted that the existing road (Option B) does not include a stormwater furrow and no erosion is currently evident along the length of the existing road.

The space for the shoulder area and the furrow/ditch (if required) will be kept as limited as possible, and will be within the maximum proposed disturbance width of 12 i.e. total disturbance width (physical surface, road verge and side drain) will be no more than 12 metres.

Construction methodology

- The construction of the Kenhardt Access Road will begin with the surveying and pegging of the centre line and the road extents before construction. Construction will take place within the extent of this demarcation.
- A site camp for the access road construction will be established within one of the authorised laydown areas/ site camps at one of the PV facilities.

- The contractor will then initiate clearing and grubbing procedure. Clearing and grubbing entails the removal of excess vegetation before commencement of site work The Environmental Control Officer (ECO) will demarcate the full extent of the work area in conjunction with the contractor and all areas outside this demarcated zone will be considered no go areas for construction. Topsoils stripped during the clearing and grubbing will be stockpiled for use in rehabilitation of the disturbed road verges, with excess topsoil to be used during rehabilitation of the PV Facility.
- Bulk earthworks follow with the removal of existing material so that road layer works can be imported and processed.
- Upper selected layers shall be selected and processed after the subgrade layer has been processed and compacted according to engineer specifications.
- Each layer shall be imported after the completion of the previous layer.

Materials supply

Gravel and concrete shall be transported directly from existing lawful commercial sources and laid onto the road where required, thereby reducing the amount of imported material to be stockpiled. The developer will not construct or create new borrow pits.

Drainage and stormwater management

The proposed road will not increase the stormwater run-off significantly as dissipation measures and attenuation systems will be employed in an overall stormwater management system. Additionally, it is noted that no major cut and fill activities will take place and the road will remain a gravel road. The developer will however implement measures as contained in the EMPr to control stormwater, where necessary.

Erosion control and management

The developer shall follow all erosion control and management guidelines as per the EMPr.

Dust control and management

The developer shall undertake every effort to minimise dust pollution on the site and shall implement the dust control measures as required in the EMPr.

Storage of material

- Zones for the purpose of storage of material shall be located within the construction extents / access road servitude; and
- A substantial amount of the material required for the construction of the road shall be stored on the road, with each layer being imported and stored on the previously processed layer.

Procedures for containment of leaks and spills emergency plans

This will be implemented as per the approved EMPr in respect of the project.

Include the position of the access road on the site plan and required map, as well as an indication of the road in relation to the site.

6. LOCALITY MAP

An A3 locality map must be attached to the back of this document, as Appendix A. The scale of the locality map must be relevant to the size of the development (at least 1:50 000. For linear activities of

more than 25 kilometres, a smaller scale e.g. 1:250 000 can be used. The scale must be indicated on the map.). The map must indicate the following:

- an accurate indication of the project site position as well as the positions of the alternative sites, if any; ✓All three access road alternatives are shown on the locality plans attached in appendix A
- indication of all the alternatives identified; ✓All three access road alternatives are shown on the locality plans attached in appendix A
- closest town(s;) ✓The closest town to the site is Kenhardt as shown on the Locality Plan in Appendix A
- road access from all major roads in the area; ✓All existing main and secondary roads are shown on the Locality Plan attached in appendix A
- road names or numbers of all major roads as well as the roads that provide access to the site(s); ✓The road names of all main roads are shown on the locality plans attached in appendix A.
- all roads within a 1km radius of the site or alternative sites; and ✓ All main and secondary roads are within the total extent of the map area are shown in the locality plans attached in appendix A.
- a north arrow; ✓The locality plans attached in Appendix A include a North Arrow
- a legend; and ✓The locality plans attached in Appendix A include a legend.
- locality GPS co-ordinates (Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in degrees and decimal minutes. The minutes should have at least three decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection). × The locality plan attached in Appendix A does not include as activity is linear in nature. Co-ordinates of all bend points within the proposed road are shown in the table below.

Table 1: Approximate co-ordinates of centre line of access road corridor

	Latitude (S) (DDMMSS)			**Longitude (E) (DDMMSS)**		
A	29	16	28	21	18	53
B	29	15	53	21	18	28
C	29	15	41	21	18	26
D	29	15	27	21	18	45
E	29	14	00	21	17	51
F	29	13	36	21	17	56
G	29	13	32	21	18	08
H	29	12	07	21	17	57
I	29	12	06	21	18	01
J	29	11	58	21	18	59

	Latitude (S) (DDMMSS)			Longitude (E) (DDMMSS)		
K	29	11	60	21	18	60
L	29	12	04	21	18	00
M	29	11	39	21	17	49
N	29	11	15	21	18	18
O	29	11	13	21	18	17
P	29	11	10	21	18	14

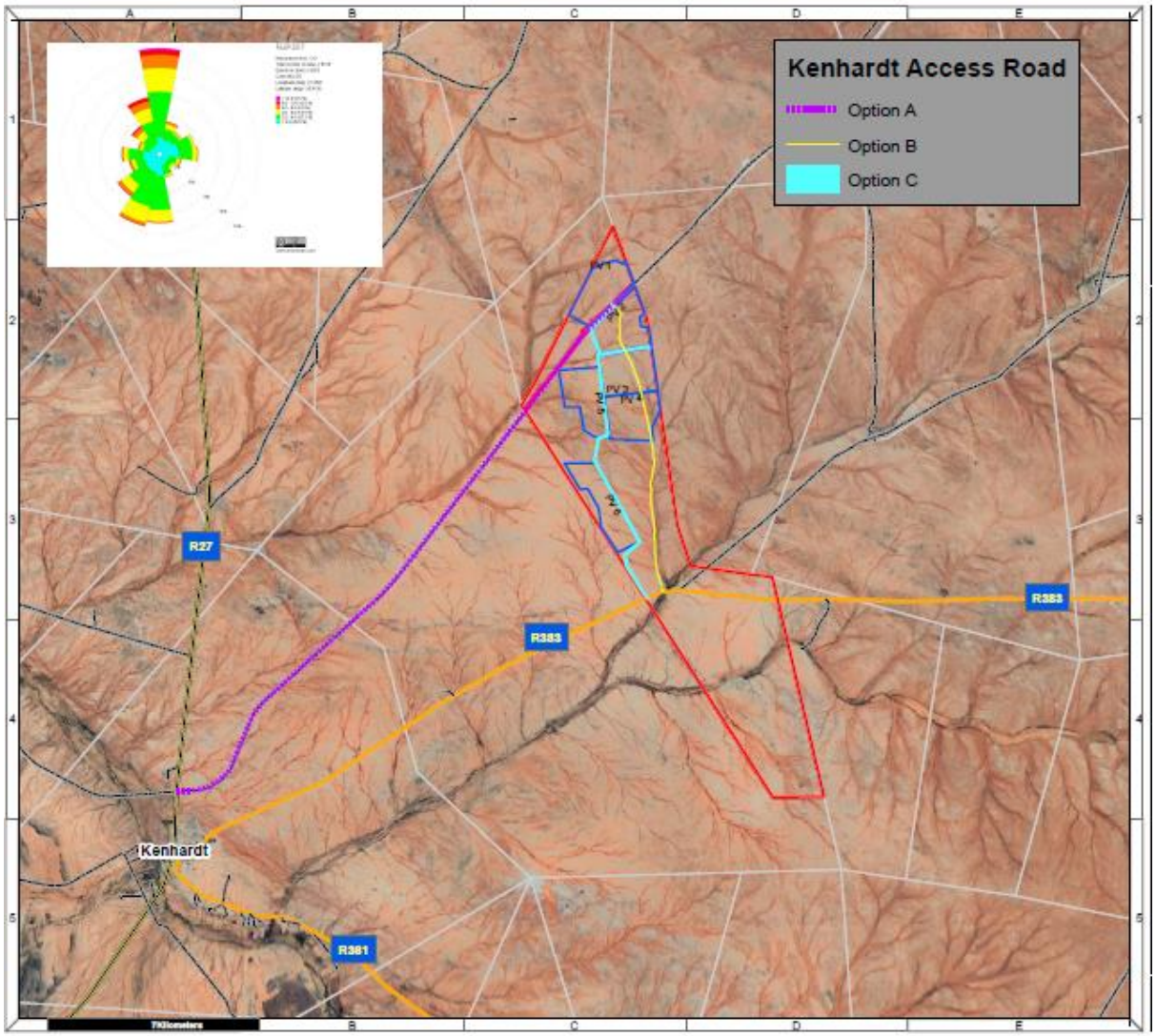


Figure 2: Proposed Access road and Alternatives. Please Refer to Appendix A for a full scale copy of the Plan

7. LAYOUT/ROUTE PLAN

A detailed site or route plan(s) must be prepared for each alternative site or alternative activity. It must be attached as Appendix A to this document.

The site or route plans must indicate the following:

- the property boundaries and numbers of all the properties within 50 metres of the site;
- the current land use as well as the land use zoning of the site;
- the current land use as well as the land use zoning each of the properties adjoining the site or sites;
- the exact position of each listed activity applied for (including alternatives);
- servitude(s) indicating the purpose of the servitude;
- a legend; and
- a north arrow.

A location and topographical plan is attached in Appendix A. The Layout and Route Plan that complies with the above is attached in Appendix C.

8. SENSITIVITY MAP

The layout/route plan as indicated above must be overlain with a sensitivity map that indicates all the sensitive areas associated with the site, including, but not limited to:

- watercourses;
- the 1:100 year flood line (where available or where it is required by DWS);
- ridges;
- cultural and historical features;
- areas with indigenous vegetation (even if it is degraded or infested with alien species); and
- critical biodiversity areas.

The sensitivity map must also cover areas within 100m of the site and must be attached in Appendix A.

Appendix A contains all the relevant Biodiversity overlays, including:

- Freshwater Ecosystems;

- Vegetation Types;

- Critical Biodiversity Areas;

9. SITE PHOTOGRAPHS

Colour photographs from the centre of the site must be taken in at least the eight major compass directions with a description of each photograph. Photographs must be attached under Appendix B to this report**.** It must be supplemented with additional photographs of relevant features on the site, if applicable.

The site photographs are attached in Appendix C. Since the activity is linear in Nature, the photographs are taken sequentially along the Access road alternatives and not from the centre of the site. Other than the photographic record attached in Appendix C, please also refer to the photographs in the report where specific environmental aspects are discussed.

10. FACILITY ILLUSTRATION

A detailed illustration of the activity must be provided at a scale of at least 1:200 as Appendix C for activities that include structures. The illustrations must be to scale and must represent a realistic image of the planned activity. The illustration must give a representative view of the activity.

Since the activity does not entail the construction of physical structures, Facility illustrations include a route plan. The route alignments are indicated in Appendix C and typical cross sections are included in the Engineering Method Statement in Appendix D5 and below.

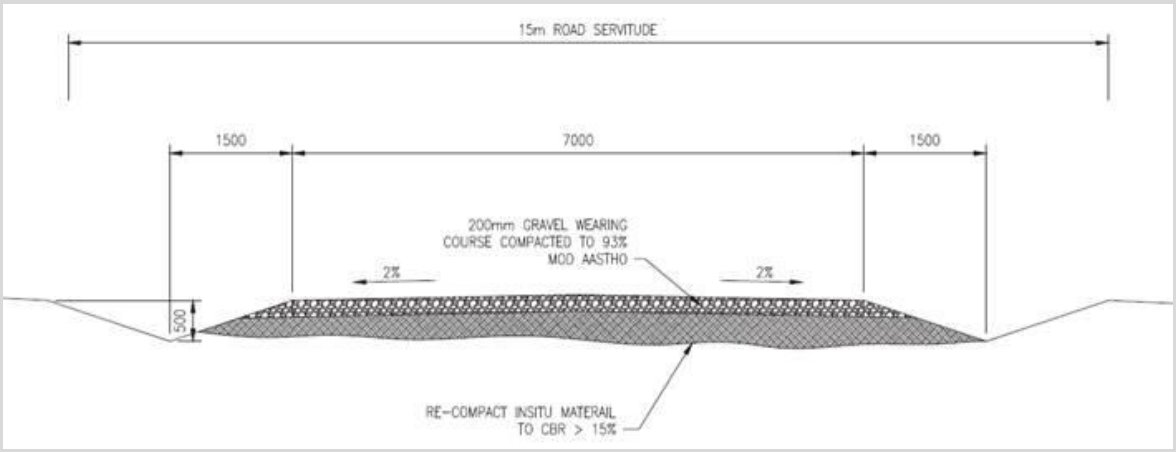


Figure 3: Typical cross section of proposed access road.

1. ACTIVITY MOTIVATION

Motivate and explain the need and desirability of the activity (including demand for the activity):

1. Is the activity permitted in terms of the property's existing land use rights?	✓YES	~~NO~~	Please explain
The proposed activity entails the construction of an access road and as such does not change the land use of the property in question.			

2. Will the activity be in line with the following?			
(a) Provincial Spatial Development Framework (PSDF)	✓YES	~~NO~~	Please explain
According to the Northern Cape Provincial Development Plan 2030, Renewable energies, especially solar and waste/biomass to energy initiatives will play an increasingly important role in the following two decades and will contribute a much greater share of provincial energy consumption. In terms of Electricity infrastructure related to forms of renewable energy, the spatial distribution of supply should aim to follow clearly defined corridors, with electricity services being highly concentrated close to the major routes and high capacity electricity infrastructure (PSDF, 2011). This projects for which this access road is proposed aims to link to existing and approved electrical infrastructure associated with renewable energy projects (Solar PV Development) and the Eskom national grid network (via the Nieuwehoop substation). One of the sustainable development objectives of the PSDF is to utilize renewable resources as opposed to non-renewable resources. This access road is associated with the generation of electricity from a renewable resource. It also promotes the concept of Bioregionalism as enshrined in the PSDF.			
(b) Urban edge / Edge of Built environment for the area	✓YES	~~NO~~	Please explain
The proposed access road is outside of the Urban Edge of Kenhardt, however, the nature of such access roads dictates that they need not be situated within an urban edge or within the edge of built up areas.			
(c) Integrated Development Plan (IDP) and Spatial Development Framework (SDF) of the Local Municipality (e.g. would the approval of this application compromise the integrity of the existing approved and credible municipal IDP and SDF?).	✓YES	~~NO~~	Please explain
The IDP defines public infrastructure development such as energy generation as a critical action within the municipal area. This proposed access road is directly linked to the authorised PV Energy facilities on this property.			
(d) Approved Structure Plan of the Municipality	✓YES	~~NO~~	Please explain
To the best of our knowledge, there is no specific structure plan adopted for the !Kheis local municipality. The project is however compliant with other relevant planning policies.			

(e) An Environmental Management Framework (EMF) adopted by the Department (e.g. Would the approval of this application compromise the integrity of the existing environmental management priorities for the area and if so, can it be justified in terms of sustainability considerations?)	✓YES	~~NO~~	Please explain

According to the screening tool report, the proposed Kenhardt Access road intersects the Siyanda District EMF. According to this EMF, the high level of sunshine in the area provides a significant opportunity for the generation of electricity using solar energy (an activity to which this proposed access road directly relates).

The proposed Kenhardt Access Road falls within the Bushmanland Arid Grassland Vegetation type, which according to the Siyanda District EMF has a medium conservation priority as shown in the table below:

Table 2: Conservation priority urgency of Bushmanland Arid Grassland in terms of the Siyanda EMF.

	·SIYANDA·DISTRICT·EMF·AREA·ASESSMENT·¤						Proposals¤	
Vegetation·name·(biomes·in·capitals)¤	Area·(sq·km)¤	%·of·vegetation·in·Siyanda¤	%·of·national·coverage¤	Area·of·high·quality·vegetation¤	%·high·quality¤	Area·of·disturbed·vegetation¤	Proposed·conservation·target·of·remaining·high·quality·vegetation·in·Siyanda¤	Conservation·priority/urgency¤
Bushmanland·Arid·Grassland¤	23894.280¤	23.275¤	52.54%¤	23,773.055¤	99.493%¤	57.577¤	12%¤	**medium¤**

Furthermore, the proposed Access road does not fall within any of the 6 proposed conservation areas for the Siyanda district.

(f) Any other Plans (e.g. Guide Plan)	✓YES	~~NO~~	Please explain

To the best of our knowledge, there is no specific guide plan adopted for the !Kheis local municipality. The project is however compliant with other relevant planning policies

3. Is the land use (associated with the activity being applied for) considered within the timeframe intended by the existing approved SDF agreed to by the relevant environmental authority (i.e. is the proposed development in line with the projects and programmes identified as priorities within the credible IDP)?	✓YES	~~NO~~	Please explain

The spatial development framework defines the renewable energy sector (to which this access road directly relates) as a focus area for this municipal district.

4. Does the community/area need the activity and the associated land use concerned (is it a societal priority)? (This refers to the strategic as well as local level (e.g. development is a national priority, but within a specific local context it could be inappropriate.)	✓YES	~~NO~~	Please explain
This proposed access road is directly related to a number of authorised PV energy facilities. Given the context of PV developments in the local context, this proposed access road can be considered to be in-line / associated with the local investment already placed in this emerging renewable energy landscape. Care has been taken to avoid significantly impacting ecological pattern and process by minimising the distance of the proposed access while at the same time avoiding all major water courses. On a strategic level, the proposed access road aligns with the regional, national and international need for the distribution of 'green electricity' from renewable energy.			
5. Are the necessary services with adequate capacity currently available (at the time of application), or must additional capacity be created to cater for the development? (Confirmation by the relevant Municipality in this regard must be attached to the final Basic Assessment Report as Appendix I.)	✓YES	~~NO~~	Please explain
This activity is considered in support of a primary service, i.e. the provision of electricity. No additional services are required to support the activity. The construction of the road may generate minimal amount of organic waste in the form of vegetation generated from clear and grub activities. This vegetation from the clear and grub activities will likely be utilised as part of the rehabilitation of the greater site, in compliance with the Environmental Management Plan. Any excess spoil material from road box cuts must be spoiled at a registered landfill or where appropriate and allowable in terms of the EMPR, utilised during the construction activities for the overall PV facility.			
6. Is this development provided for in the infrastructure planning of the municipality, and if not what will the implication be on the infrastructure planning of the municipality (priority and placement of services and opportunity costs)? (Comment by the relevant Municipality in this regard must be attached to the final Basic Assessment Report as Appendix I.)	✓YES	~~NO~~	Please explain
Not Applicable. The activity in itself is an infrastructure development			
7. Is this project part of a national programme to address an issue of national concern or importance?	✓YES	~~NO~~	Please explain
The generation of 'green / clean electricity' from a renewable energy resource (PV) forms part of a national programme to reduce reliance of coal-powered generation of electricity. The proposed access road will provide access to a number of facilities that will be generating electricity from a renewable source and will thus support this notion. Securing renewable energy sources into the overall energy matrix has been highlighted as a priority by the Department of Energy in the IRP.			

8. Do location factors favour this land use (associated with the activity applied for) at this place? (This relates to the contextualisation of the proposed land use on this site within its broader context.)	✓YES	~~NO~~	Please explain
The proposed access road falls within a Gazetted Renewable Energy Development Zone (REDZ), Namely the Upington REDZ (REDZ7). This REDZ was Gazetted specifically for the purpose of establishing utility scale Solar projects, such as those to which this access road directly relates.			
9. Is the development the best practicable environmental option for this land/site?	✓YES	~~NO~~	Please explain
The target property already has six PV energy facilities authorised. The access road proposed as part of this environmental process provides the most practical environmental option to access all 6 of these authorised facilities through the construction of a single access road.			
10. Will the benefits of the proposed land use/development outweigh the negative impacts of it?	✓YES	~~NO~~	Please explain
The potential negative impacts associated with the preferred access road alignment were found to be generally low (with mitigation), and thus acceptable, given the context. Aside from the employment benefits associated with the construction and operation / maintenance of the road, the benefit of allowing the input of 'clean electricity' into the national grid is considerable.			
11. Will the proposed land use/development set a precedent for similar activities in the area (local municipality)?	~~YES~~	✓NO	Please explain
A number of PV facilities have been approved for development in this area (including six on the remaining extent of Onder Rugzeer farm 168), which will all require access. The approved PV facilities and the availability of land, and not this access road will set the precedent as to whether there will be further such developments in the area. Considering the manner in which the access road has been designed to avoid impacting on the landuse and sensitive features (environmental and heritage/cultural) as far as possible, it can be argued that it will set a positive precedent for any future access roads in the area (i.e. to develop single roads that are able to provide access to multiple projects).			
12. Will any person's rights be negatively affected by the proposed activity/ies?	~~YES~~	✓NO	Please explain
As mentioned above, the preferred access road alternative has been designed to have the least possible impact on ecological processes and existing landuse. Furthermore, detailed public participation processes took place as part of the EIA (for the facilities) and will take place as part of this BAR.			
13. Will the proposed activity/ies compromise the "urban edge" as defined by the local municipality?	~~YES~~	✓NO	Please explain
Although falling outside of the developed areas of Kenhardt, as a linear activity, the proposed access road will not compromise the urban edges of the !Kheis Local Municipality.			

14. Will the proposed activity/ies contribute to any of the 17 Strategic Integrated Projects (SIPS)?	✓YES	~~NO~~	Please explain

The PV energy facilities on the property, once selected as preferred bidders, will form part of 3 separate Strategic Infrastructure Projects (SIP), namely:

- SIP 8: Support sustainable green energy initiatives on a national scale through a diverse range of clean energy options as envisaged in the IPR2010
- SIP 9: Electricity Generation to support socio-economic development
- SIP 10: Electricity Transmission and Distribution for all.

As the proposed access road is associated with the authorised PV energy projects, it can be considered as a Strategically Important Development ("SID"), due to their potentially significant contribution to the regional and national economy.

15. What will the benefits be to society in general and to the local communities?	Please explain

Addition of much needed electricity into the national grid.

This project will allow for the construction and operation of six PV energy facilities that could eventually cumulatively distribute 645mw of "clean-electricity" generated by the PV development from a renewable resource into the national electrical grid. The national grid currently relies heavily on coal for electricity generation, which has associated pollution and climate-change repercussions, thus this project indirectly contributes to minimising these impacts through its association with renewable energy generation.

16. Any other need and desirability considerations related to the proposed activity?	Please explain

The studies undertaken as part of this environmental process, as well as those associated with the PV energy facilities and Grid connection contribute to a greater understanding of the landscape and context and the sensitive elements within it (e.g. remnant natural vegetation and watercourses, cultural heritage areas, archaeological and palaeontological resources, avifaunal species and populations etc.), as well as the protection and rehabilitation of these elements (e.g. implementation of buffers, removal and monitoring of alien vegetation etc.).

17. How does the project fit into the National Development Plan for 2030?	Please explain

Contribution to the provision of electricity to the nation, and investment in electrical infrastructure for its distribution (as part of the strategy to remedy the electricity crisis of 2008 and that associated with the future demands).

This access road is part of a number of projects that align with the one of the prioritised infrastructure investments listed in the NDP: "Procuring at least 20 000MW of renewable electricity by 2030, importing electricity from the region, decommissioning 11 000MW of ageing coal-fired power stations and stepping up investments in energy-efficiency", as well as one the key proposals to "Implement the 2010 Integrated Resource Plan (procuring at least 20 000MW of electricity from renewables) to reduce carbon emissions from the electricity industry from 0.9kg per kilowatt-hour to 0.6kg per kilowatt-hour.

18. Please describe how the general objectives of Integrated Environmental Management as set out in section 23 of NEMA have been taken into account.

(1) The purpose of this Chapter is to promote the application of appropriate environmental management tools in order to ensure the integrated environmental management of activities,

(2) The general objective of integrated environmental management is to:

(a) promote the integration of the principles of environmental management set out in section 2 into the making of all decisions which may have a significant effect on the environment:

(b) *identify, predict and evaluate the actual and potential impact on the environment, socio-economic conditions and cultural heritage, the risks and consequences and alternatives and options for mitigation of activities, with a view to minimizing negative impacts, maximizing benefits and promoting compliance with the principles of environmental management set out in section 2;*

The assessment of impacts is included in Part D of this Basic Assessment Report. These potential impacts were determined with input from specialists with the following disciplines:

- **Terrestrial Ecology**
- **Heritage and Archaeology**
- **Palaeontology**
- **Traffic**

(*c) ensure that the effects of activities on the environment receive adequate consideration before actions are taken in connection with them*;

The baseline sensitivities of the entire property (as determined in the previous environmental processes) were explicitly used to inform the positioning of the proposed access road in such a way that potential impacts on the receiving environment were avoided as far as possible. This risk adverse approach has resulted in generally low significance of all impacts assessed.

(d) *ensure adequate and appropriate opportunity for public participation in decisions that may affect the environment*;

The Draft Basic Assessment Report will be subjected to Public Participation as outlined in Part c of this report.

(e) *ensure the consideration of environmental attributes in management and*

The environmental attributes as determined by the participating specialists and as outlined in Part B of this report have been used to determine the environmental management outcomes of the EMPr (Appendix G).

(f) *decision-making which may have a significant effect on the environment; and identify and employ the modes of environmental management best suited to ensuring that a particular activity is pursued in accordance with the principles of environmental management set out in section 2*.

All State Departments and Organs of State who may have jurisdiction in respect of this activity have been given an opportunity to provide comment on the Draft Basic Assessment Report.

(3) *The Director-General must coordinate the activities of organs of state referred to in section 24(1) and assist them in giving effect to the objectives of this section and such assistance may include training, the publication of manuals and guidelines and the co-ordination of procedures*.

The State Departments who will be consulted are listed in Part C, Section 5. In Order to give Effect to Section 24(1), the Competent Authority should engage directly with those parties listed.

11. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

List all legislation, policies and/or guidelines of any sphere of government that are applicable to the application as contemplated in the EIA regulations, if applicable:

Title of legislation, policy or guideline	Applicability to the project	Administering authority	Date
National Environmental Management Act (Act 107 of 1998)	competent authority for activities triggered by the 2014 EIA Regulations	Northern Cape Department of Environment and Nature Conservation.	Pending (application submitted)
National Environmental Management Laws Amendment Act (Act 25 of 2014)	Public participation as part of the Environmental Authorisation.	Northern Cape Department of Environment and Nature Conservation.	Pending
National Environmental Management: Biodiversity Act (Act 10 of 2004)	Competent authority in respect of possible permit applications for threatened and protected species.	Northern Cape Department of Environment and Nature Conservation	Pending
National Spatial Biodiversity Assessment	Critical Biodiversity Areas & Ecological Support Areas across alignment	Northern Cape Department of Environment and Nature Conservation	Integrated into this application.
Conservation of Agricultural Resources Act (Act 43 of 1983	Agricultural land traversed by the road. Alien vegetation in and surrounding site	Department of Agriculture, Forestry & Fisheries	Authorisation not required
National Veld and Forest Fire Act (Act 101 of 1998)	Land owners responsibility to ensure that activities on site do not pose additional fire risk to adjacent properties.	Department of Agriculture, Forestry & Fisheries	Authorisation not required
National Heritage Resources Act (Act 25 of 1999_	Activity on site greater than 500m in length extent.	SAHRA	Application in terms of NHRA to run in parallel with PPP on this Draft BAR.

National Water Act (Act 36 of 1998)	Activities within vicinity of minor water courses	Department of Water Affairs	Post EIA.

All aspects of this environmental process are under the competence of the Northern Cape Department of Environment and Nature Conservation. The National Department of Environment, Forestry and Fisheries will serve a commenting role in respect of this environmental process.

12. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

a) Solid waste management

Will the activity produce solid construction waste during the construction/initiation phase?	✓YES	~~NO~~
If YES, what estimated quantity will be produced per month?	±30m^3	

How will the construction solid waste be disposed of (describe)?

The amount of waste generated during construction will be extremely limited and likely to include the following:

- Concrete waste from the construction of the railway level crossing.
- Concrete waste from the construction of stormwater management structures.
- Biomass from vegetation clearing.
- Overburden.

Where will the construction solid waste be disposed of (describe)?

- Biomass from vegetation clearing will be stockpiled for utilisation during rehabilitation of the access road and associated PV facilities.
- Concrete waste to be disposed of at Kenhardt Municipal Landfill (Licence number: 16/2/7/D530/D11/Z1/P452).
- Overburden to be disposed of at Kenhardt Municipal Landfill (Licence number: 16/2/7/D530/D11/Z1/P452).

Will the activity produce solid waste during its operational phase?	~~YES~~	✓NO
If YES, what estimated quantity will be produced per month?	0m^3	

How will the solid waste be disposed of (describe)?

No solid waste will be generated during the operational phase of the activity.

If the solid waste will be disposed of into a municipal waste stream, indicate which registered landfill site will be used.

Kenhardt Municipal Landfill. The Kenhardt Municipal Landfill is a licenced Landfill (Licence number: 16/2/7/D530/D11/Z1/P452) and is permitted to accept general waste as per the licence issued by the Department of Water Affairs and Forestry on 07 December 2001.

Where will the solid waste be disposed of if it does not feed into a municipal waste stream (describe)?

All waste generated during both construction and operation will be disposed of into the Municipal Waste Stream.

If the solid waste (construction or operational phases) will not be disposed of in a registered landfill site or be taken up in a municipal waste stream, then the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Can any part of the solid waste be classified as hazardous in terms of the NEM:WA?	~~YES~~	✓NO

If YES, inform the competent authority and request a change to an application for scoping and EIA. An application for a waste permit in terms of the NEM:WA must also be submitted with this application.

Is the activity that is being applied for a solid waste handling or treatment facility?	~~YES~~	✓NO

If YES, then the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA. An application for a waste permit in terms of the NEM:WA must also be submitted with this application.

b) Liquid effluent

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system?	~~YES~~	✓NO
If YES, what estimated quantity will be produced per month?	0m^3	

Will the activity produce any effluent that will be treated and/or disposed of on site?	~~YES~~	✓NO

If YES, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Will the activity produce effluent that will be treated and/or disposed of at another facility?	~~YES~~	✓NO

If YES, provide the particulars of the facility:

~~**Facility name:**~~			
~~**Contact person:**~~			
~~**Postal address:**~~			
~~**Postal code:**~~			
~~**Telephone:**~~		~~**Cell:**~~	
~~**E-mail:**~~		~~**Fax:**~~	

Describe the measures that will be taken to ensure the optimal reuse or recycling of waste water, if any:

The activity will not generate any waste water.

c) Emissions into the atmosphere

Will the activity release emissions into the atmosphere other that exhaust emissions and dust associated with construction phase activities?	~~YES~~	✓NO
If YES, is it controlled by any legislation of any sphere of government?	~~YES~~	✓NO

If YES, the applicant must consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

If NO, describe the emissions in terms of type and concentration:

The applicant will be responsible for ensuring compliance with the National Dust Control Regulations (Regulation 827). According to the regulations, any person conducting any activity in such a way as to give rise to dust in quantities and concentrations that exceeded the dustfall standard set out in the regulation are, upon receipt of a notice from an air quality officer, impelled to, upon receipt of a notice from an air quality officer, implement a dustfall monitoring programme.

d) Waste permit

Will any aspect of the activity produce waste that will require a waste permit in terms of the NEM:WA?	~~YES~~	✓NO

If YES, please submit evidence that an application for a waste permit has been submitted to the competent authority

e) Generation of noise

Will the activity generate noise?	✓YES	NO
If YES, is it controlled by any legislation of any sphere of government?	YES	✓NO

Describe the noise in terms of type and level:

Noise generated by the activity will be limited to noise generated by construction machinery during the construction phase and noise levels will comply with SANS 10103:2008. The impact of this is deemed to be very low, with mitigation as outlined in the EMPr.

13. WATER USE

Please indicate the source(s) of water that will be used for the activity by ticking the appropriate box(es):

✓Municipal	~~Water board~~	~~Groundwater~~	~~River, stream, dam or lake~~	~~Other~~	✓The activity will not use water (after construction)

If water is to be extracted from groundwater, river, stream, dam, lake or any other natural feature, please indicate the volume that will be extracted per month:	0 litres	
Does the activity require a water use authorisation (general authorisation or water use license) from the Department of Water Affairs?	~~YES~~	✓NO

If YES, please provide proof that the application has been submitted to the Department of Water Affairs.

The access road construction would form a small component of the general solar development construction which would require approximately 5400m3 per month of water. This water would be procured by the Engineer Procure Contract (EPC) Contractor appointed to construct the project and would be sourced either from the municipality or from groundwater. The Municipality has confirmed the availability of water for construction of the PV Facilities.

14. ENERGY EFFICIENCY

Describe the design measures, if any, which have been taken to ensure that the activity is energy efficient:

None – The activity is of such a nature that it does not utilise energy. It is however associated with facilities that will generate energy from a renewable resource.

Describe how alternative energy sources have been taken into account or been built into the design of the activity, if any:

None - The activity is of such a nature that it does not utilise energy

SECTION B: SITE/AREA/PROPERTY DESCRIPTION

Important notes:

1. For linear activities (pipelines, etc) as well as activities that cover very large sites, it may be necessary to complete this section for each part of the site that has a significantly different environment. In such cases please complete copies of Section B and indicate the area, which is covered by each copy No. on the Site Plan.

Section B Copy No. (e.g. A): ☐

2. Paragraphs 1 - 6 below must be completed for each alternative.

3. Has a specialist been consulted to assist with the completion of this section? ~~YES~~ ✓NO

If YES, please complete the form entitled "Details of specialist and declaration of interest" for each specialist thus appointed and attach it in Appendix I. All specialist reports must be contained in Appendix D.

Property description/physical address:

Province	Northern Cape
District Municipality	ZF Mgcawu District
Local Municipality	!Kheis Local Municipality
Ward Number(s)	1
Farm name and number	Onder Rugzeer 168
Portion number	Remaining Extent, Portion 4
SG Code	C03600000000016800000 C03600000000016800004

Where a large number of properties are involved (e.g. linear activities), please attach a full list to this application including the same information as indicated above.

Current land-use zoning as per local municipality IDP/records:	The remaining extent of the Farm Onder Rugzeer 168 is zoned for agricultural purposes. Portion 4 of the Farm Onder Rugzeer 168 is Zoned for transport purposes.

In instances where there is more than one current land-use zoning, please attach a list of current land use zonings that also indicate which portions each use pertains to, to this application.

Is a change of land-use or a consent use application required?	~~YES~~	✓NO

1. GRADIENT OF THE SITE

Indicate the general gradient of the site.

Alternative C (Preferred)

✓Flat	✓1:50 – 1:20	~~1:20 – 1:15~~	~~1:15 – 1:10~~	~~1:10 – 1:7,5~~	~~1:7,5 – 1:5~~	~~Steeper than 1:5~~

Alternative A

✓Flat	✓1:50 – 1:20	~~1:20 – 1:15~~	~~1:15 – 1:10~~	~~1:10 – 1:7,5~~	~~1:7,5 – 1:5~~	~~Steeper than 1:5~~

Alternative B

✓Flat	✓1:50 – 1:20	~~1:20 – 1:15~~	~~1:15 – 1:10~~	~~1:10 – 1:7,5~~	~~1:7,5 – 1:5~~	~~Steeper than 1:5~~

2. LOCATION IN LANDSCAPE

Indicate the landform(s) that best describes the site:

~~2.1 Ridgeline~~		~~2.4 Closed valley~~		~~2.7 Undulating plain / low hills~~	
~~2.2 Plateau~~		~~2.5 Open valley~~		~~2.8 Dune~~	
~~2.3 Side slope of hill/mountain~~		2.6 Plain	✓	~~2.9 Seafront~~	
~~2.10 At sea~~					

3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

Is the site(s) located on any of the following?

	Alternative C (Preferred):		**Alternative B:**		**Alternative A:**	
Shallow water table (less than 1.5m deep)	~~YES~~	✓NO	~~YES~~	✓NO	~~YES~~	✓NO
Dolomite, sinkhole or doline areas	~~YES~~	✓NO	~~YES~~	✓NO	~~YES~~	✓NO
Seasonally wet soils (often close to water bodies)	~~YES~~	✓NO	~~YES~~	✓NO	~~YES~~	~~✓NO~~

Unstable rocky slopes or steep slopes with loose soil	~~YES~~	✓NO	~~YES~~	✓NO	~~YES~~	~~✓NO~~
Dispersive soils (soils that dissolve in water)	~~YES~~	✓NO	~~YES~~	✓NO	~~YES~~	~~✓NO~~
Soils with high clay content (clay fraction more than 40%)	~~YES~~	✓NO	~~YES~~	✓NO	~~YES~~	~~✓NO~~
Any other unstable soil or geological feature	~~YES~~	✓NO	~~YES~~	✓NO	~~YES~~	~~✓NO~~
An area sensitive to erosion	~~YES~~	✓NO	~~YES~~	✓NO	~~YES~~	~~✓NO~~

If you are unsure about any of the above or if you are concerned that any of the above aspects may be an issue of concern in the application, an appropriate specialist should be appointed to assist in the completion of this section. Information in respect of the above will often be available as part of the project information or at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by the Council for Geo Science may also be consulted.

An Agricultural Specialist, Mr Johann Lanz, undertook an Agricultural Impact Assessment of the proposed PV Generation facilities as part of the preceding EIA on this property. This specialist confirmed the following in respect of the Geology and Soils on site:

soils on site are shallow, red sandy soils on underlying rock and hard-pan carbonate. Actual soil forms vary within short distances depending on rock ridges that run across the area and the extent of calcrete formation. There are numerous outcrops of rocky ridges at the soil surface across the entire area. All investigated sample points across the area were one of four soil forms:

- Coega,
- Mispah,
- Plooysberg or
- Hutton.

However there is very little practical difference between these different soil forms. All have a clay content of approximately 7%, are shallow and are underlain by a hard impenetrable layer (either rock or hard-pan carbonate).

4. GROUNDCOVER

Indicate the types of groundcover present on the site. The location of all identified rare or endangered species or other elements should be accurately indicated on the site plan(s).

✓Natural veld - good condition[E]	~~Natural veld with scattered aliens[E]~~	~~Natural veld with heavy alien infestation[E]~~	~~Veld dominated by alien species[E]~~	~~Gardens~~
~~Sport field~~	~~Cultivated land~~	~~Paved surface~~	~~Building or other structure~~	✓Bare soil

If any of the boxes marked with an "E "is ticked, please consult an appropriate specialist to assist in the completion of this section if the environmental assessment practitioner doesn't have the necessary expertise.

5. SURFACE WATER

Indicate the surface water present on and or adjacent to the site and alternative sites?

Perennial River	YES	✓NO	UNSURE
Non-Perennial River	✓YES	NO	UNSURE
Permanent Wetland	YES	✓NO	UNSURE
Seasonal Wetland	YES	✓NO	UNSURE
Artificial Wetland	YES	✓NO	UNSURE
Estuarine / Lagoonal wetland	YES	✓NO	UNSURE

If any of the boxes marked YES or UNSURE is ticked, please provide a description of the relevant watercourse.

The study is a generally level portion of land, with a low gradient, straddling the watershed between two *non perennial* drainage features. To the west of the site, drainage is towards a shallow feature known locally as "Wolfkopse Loop" and to the east, towards the Rugsrivier. Both drainage systems eventually serve the Hartebeest River, which in turn serves the Sout River and Orange River systems. The proposed access road lies along this watershed between the two systems.

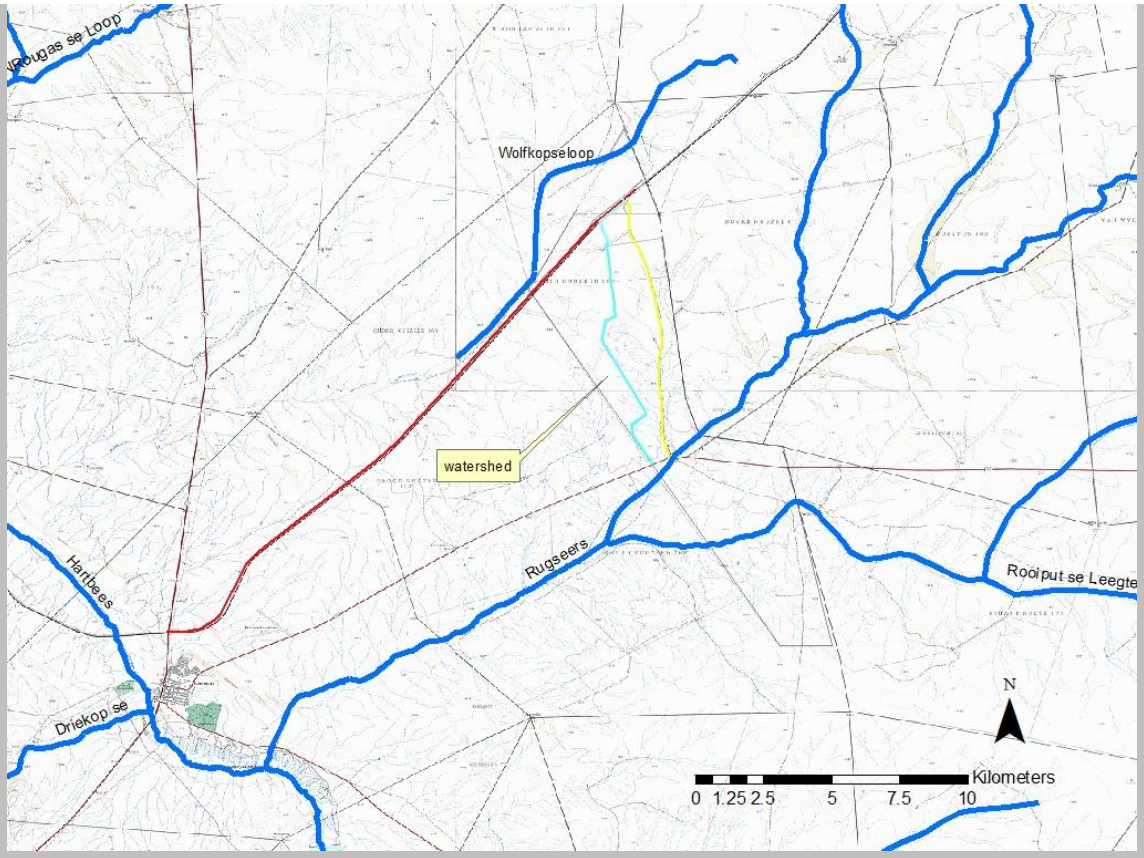


Figure 4: Map indicating drainage lines associated with the Kenhardt Access Road project area, including the two catchments of Wolfkopseloop and Rugseers River.

The access road avoids all significant water courses, but does traverse some minor dendritic drainage features as shown in the figure below.

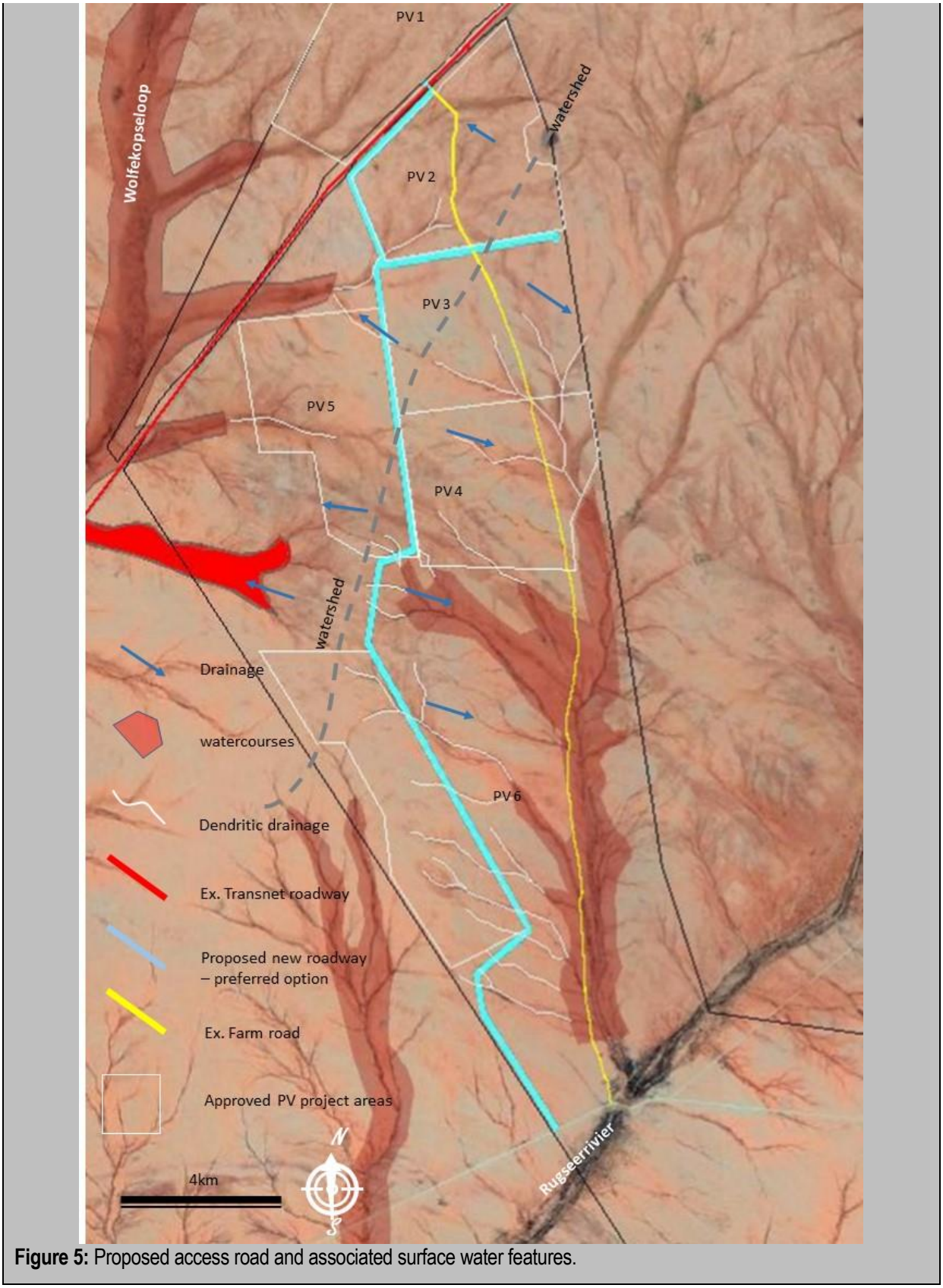


Figure 5: Proposed access road and associated surface water features.

Figure 6: Example of dendritic drainage features along the proposed access road.

Please refer to the Ecological Impact Assessment Report in Appendix D1 for further information on the surface water features on site and within the greater area.

6. LAND USE CHARACTER OF SURROUNDING AREA

Indicate land uses and/or prominent features that currently occur within a 500m radius of the site and give description of how this influences the application or may be impacted upon by the application:

✓Natural area	~~Dam or reservoir~~	~~Polo fields~~
~~Low density residential~~	~~Hospital/medical centre~~	~~Filling station~~ **~~H~~**
~~Medium density residential~~	~~School~~	~~Landfill or waste treatment site~~
~~High density residential~~	~~Tertiary education facility~~	~~Plantation~~
~~Informal residential~~	~~Church~~	~~Agriculture~~
~~Retail commercial & warehousing~~	~~Old age home~~	✓River, stream or wetland
~~Light industrial~~	~~Sewage treatment plant~~**~~A~~**	~~Nature conservation area~~
~~Medium industrial~~ **~~AN~~**	~~Train station or shunting yard~~ **~~N~~**	~~Mountain, Koppie or ridge~~
~~Heavy industrial~~ **~~AN~~**	✓Railway line **N**	~~Museum~~

~~Power station~~	~~Major road (4 lanes or more)~~ [N]	~~Historical building~~
~~Office/consulting room~~	~~Airport~~ [N]	~~Protected Area~~
~~Military or police base/station/compound~~	~~Harbour~~	~~Graveyard~~
~~Spoil heap or slimes dam~~ [A]	~~Sport facilities~~	~~Archaeological site~~
~~Quarry, sand or borrow pit~~	~~Golf course~~	~~Other land uses (describe)~~

If any of the boxes marked with an "N "are ticked, how this impact will / be impacted upon by the proposed activity? Specify and explain:

The proposed Access road alternatives will not likely have any impact on the railway line as it is proposed to cross at an existing level crossing. Transnet have been registered as an I&AP on this Environmental Process and have been given an opportunity to provide comment on the Draft BAR.

The applicant will be responsible to obtain the necessary approvals from Transnet, should the proposed access road require the upgrade of the existing level crossing.

If any of the boxes marked with an "An" are ticked, how will this impact / be impacted upon by the proposed activity? Specify and explain:

None

If any of the boxes marked with an "H" are ticked, how will this impact / be impacted upon by the proposed activity? Specify and explain:

None

Does the proposed site (including any alternative sites) fall within any of the following:

Critical Biodiversity Area (as per provincial conservation plan)	~~YES~~	✓NO
Core area of a protected area?	~~YES~~	✓NO
Buffer area of a protected area?	~~YES~~	✓NO
Planned expansion area of an existing protected area?	YES	✓NO
Existing offset area associated with a previous Environmental Authorisation?	YES	✓NO
Buffer area of the SKA?	YES	✓NO

The proposed Kenhardt Access road is no within or in close proximity to any protected areas, nor any designated expansion areas.

The Northern Cape Critical Biodiversity Area (CBA) map is included in the Biodiversity Overlays attached in Appendix A. This map indicates that much of the Farm Onder Rugseer lies outside of any area deemed to be of conservation value, howsoever, in the south, the farm and road interface with an ecological support area associated with the Rugseers River.

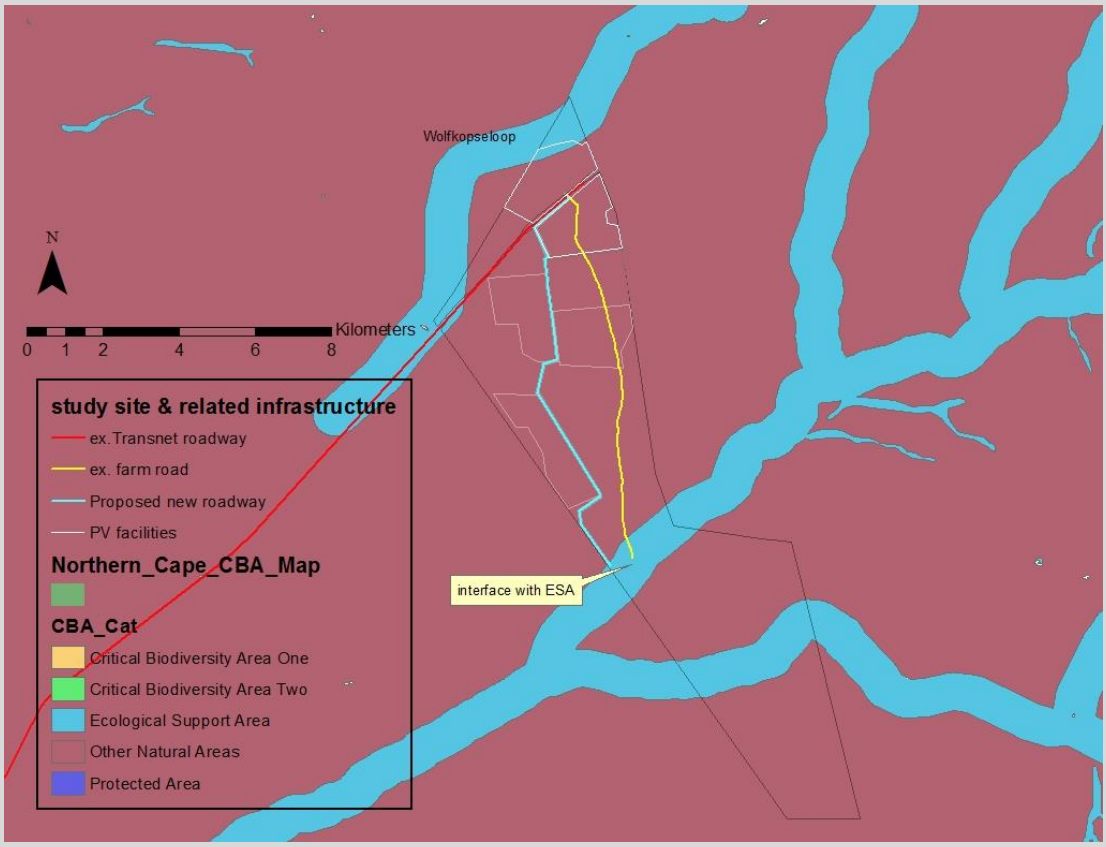


Figure 7: Map image showing Northern Cape CBA data and the interface of the roadway with the identified ecological support area.

The proposed access road is unlikely to affect this ESA, as it is associated with a drainage feature situated south of the R383.

If the answer to any of these questions was YES, a map indicating the affected area must be included in Appendix A.

7. CULTURAL/HISTORICAL FEATURES

Are there any signs of culturally or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including Archaeological or paleontological sites, on or close (within 20m) to the site? If YES, explain:	~~YES~~	✓NO
	~~Uncertain~~	

A heritage impact assessment was undertaken as part of this Basic Assessment Process. This assessment was undertaken by Dr Jayson Orton of ASHA Consulting and is attached in Appendix D2

Dr Orton confirmed the following as part of his Heritage Assessment:

The study area for Alternatives B and C (Preferred) is generally very flat, almost devoid of vegetation.

The survey revealed background scatter stone artefacts to be present all over the study area. Denser scatters of artefacts were rare, but three were noted along Alternative C. All are of low to very low cultural significance. No graves were seen and the chances of graves occurring are considered to be negligible.

The cultural landscape is weakly developed and centred on small stock farming. It is of low cultural significance.

No significant impacts are expected through implementation of any of the three alternatives, but, from a heritage point of view, Option A is slightly preferred. If for other reasons either Option B or C is found to be the most preferred, then there is no heritage objection to one of those being implemented. There are no fatal flaws for any alternative.

The Heritage Specialist recommended that the proposed access road be authorised but with the following conditions:

- All gates and fencing along the new road are to be in keeping with the nature of farm fences;
- No mature trees may be removed from the southern end of Alternative B; and
- If any archaeological material or human burials are uncovered during the course of development then work in the immediate area should be halted. The find would need to be reported to the heritage authorities and may require inspection by an archaeologist. Such heritage is the property of the state and may require excavation and curation in an approved institution.

If uncertain, conduct a specialist investigation by a recognised specialist in the field (archaeology or palaeontology) to establish whether there is such a feature(s) present on or close to the site. Briefly explain the findings of the specialist:

A heritage impact assessment was undertaken as part of this Basic Assessment Process. This assessment was undertaken by Dr Jayson Orton of ASHA Consulting and is attached in Appendix D2. The Key findings of the Heritage Specialist are summarised above.

In addition to the Heritage Impact Assessment, a Palaeontological Desktop Assessment was also undertaken by Dr John Almond. Please refer to Appendix D3 for a copy of this assessment.

Based on desktop analysis of satellite imagery, geological maps, published scientific literature as well as several previous desktop palaeontological heritage studies PV facilities in the Kenhardt region, the Palaeontology specialist concluded that the study site for the proposed access road is generally of LOW to Very LOW palaeosensitivity.

However, the possibility of rare, unpredictable, very local pockets of HIGH sensitivity (e.g. due to mammalian bones, teeth) cannot be completely excluded. Impacts on local fossil heritage preserved at or beneath the ground surface during the construction phase of the access road are anticipated to be NEGLIGIBLE TO VERY LOW significance.

No fatal flaws or No-Go areas in terms of palaeontological heritage resources have been identified

level within the project footprint. This analysis applies equally to all three access road corridor options under consideration and there is no preference for any particular corridor on palaeontological heritage grounds.

There are no objections on palaeontological heritage grounds to authorization of the proposed integrated access road and no further specialist studies or mitigation for the development are recommended here, pending the potential discovery of scientifically important fossil material before or during the construction phase.

The specialist has recommended that should substantial fossil remains - such as vertebrate bones and teeth, shells, trace fossils or subfossil wood - be encountered at surface or exposed during construction, the ECO should safeguard these in situ. They should then alert the South African Heritage Resources Agency (SAHRA) to ensure that appropriate action can be taken by a professional palaeontologist at the developer's expense. A fossil chance find procedure has been included in the EMPr in appendix G

Will any building or structure older than 60 years be affected in any way?	~~YES~~	✓NO
Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?	~~YES~~	✓NO

If YES, please provide proof that this permit application has been submitted to SAHRA or the relevant provincial authority.

8. SOCIO-ECONOMIC CHARACTER

a) Local Municipality

Please provide details on the socio-economic character of the local municipality in which the proposed site(s) are situated.

Level of unemployment:

According to the !Kheis IDP, the official unemployment rate of the Municipal area is 10% and has decreased by 6.1% since the 2011 Census measurement of 16.1% .

According to the Socioeconomic Specialist for the PV facilities, Mr Rudolph du Toit from Applied Science Associated, Unemployment levels in the town of Kenhardt are particularly high. All informants interviewed indicated that the vast majority of the economically active population is dependent on some form of government subsidy. These statements appear to be reliable given the very limited amount of businesses operating within Kenhardt. Businesses generally consist of liquor stores, restaurants and accommodation (Bed and Breakfast), with clothing stores and one general dealers. Employment figures for these businesses appear to range from a minimum of one to a maximum of four employees.

Agriculture in the Kenhardt area is dominated by sheep farming which requires particularly low levels of labour (approximately 2-4 labours per farm), with limited seasonal increases in labour requirements during the shearing season. Larger employers in Kenhardt include the local high school, the municipal offices, the Department of Social Development satellite office and the local police station.

Subsequently, the local labour market appears to offer very limited absorption of the economically active component (i.e. approximately 4675 employment opportunities, based on a 70.5% working age demographic for the !Kheis municipal area) of the 6679 inhabitants of the Kenhardt area.

Economic profile of local municipality:

The economic sector is dominated by agriculture, hunting and forestry which provides 72% of jobs within the !Kheis Local Municipality; while electricity, gas and water (the sector relevant to the proposed development) only contribute 0.2% to total employment in the area.

In terms of dependency ratio (48.3%) and GINI coefficient (0.548), the !Kheis Local Municipality scores above average both in terms of the Category B3 municipal average and in terms of the national average (Municipal Capacity Assessment, 2018) (Figure 6). This implies that the !Kheis Local Municipality has a lower dependency ratio, and is less unequal than the national average.

Level of education:

The Local Municipality has a below average number of educational facilities, when compared with other level B3 municipalities and the national average. The Municipality has 3.6 primary schools per 10 000 population, but only 1.1 high schools per 10 000 population; which is 2.2% less than the national average.

The matric pass rate within the Municipality is slightly higher than the national average at 75.2%; while the local youth school enrolment is 14.7% lower than the national average at 74.9%. Furthermore, the local levels of education reveal that people with primary education (8.7%) and some secondary education (39.5%) is higher than the respective national averages; while those with secondary education (15.6%) are less than the national average.

b) Socio-economic value of the activity

What is the expected capital value of the activity on completion?	R50 000 000	
What is the expected yearly income that will be generated by or as a result of the activity?	R0	
Will the activity contribute to service infrastructure?	✓YES	~~NO~~
Is the activity a public amenity?	~~YES~~	✓NO
How many new employment opportunities will be created in the development and construction phase of the activity/ies?	12 Full time employees	
What is the expected value of the employment opportunities during the development and construction phase?	R4 000 000	
What percentage of this will accrue to previously disadvantaged individuals?	60%	
How many permanent new employment opportunities will be created during the operational phase of the activity?	1	
What is the expected current value of the employment opportunities during the first 10 years?	R4 000 000	
What percentage of this will accrue to previously disadvantaged individuals?	60%	

9. BIODIVERSITY

Please note: The Department may request specialist input/studies depending on the nature of the biodiversity occurring on the site and potential impact(s) of the proposed activity/ies. To assist with the identification of the biodiversity occurring on site and the ecosystem status consult http://bgis.sanbi.org or BGIShelp@sanbi.org. Information is also available on compact disc (cd) from the Biodiversity-GIS Unit, Ph (021) 799 8698. This information may be updated from time to time and it is the applicant/ EAP's responsibility to ensure that the latest version is used. A map of the relevant biodiversity information (including an indication of the habitat conditions as per (b) below) and must be provided as an overlay map to the property/site plan as Appendix D to this report.

a) Indicate the applicable biodiversity planning categories of all areas on site and indicate the reason(s) provided in the biodiversity plan for the selection of the specific area as part of the specific category)

Systematic Biodiversity Planning Category	If CBA or ESA, indicate the reason(s) for its selection in biodiversity plan

~~Critical Biodiversity Area (CBA)~~	✓Ecological Support Area (ESA)	✓Other Natural Area (ONA)	~~No Natural Area Remaining (NNR)~~	Please refer to appendix A which shows the proposed access road in relation to the Critical Biodiversity areas. The Northern Cape Critical Biodiversity Area (CBA) map for the region indicates that much of the Farm Onder Rugseer lies outside of any area deemed to be of conservation value (ONA), however, in the south, the farm and road interface with an ecological support area associated with the Rugseers River. This area has been identified on account of its association with the Rugseers River. The impact of the proposed access road on this ESA corridor is considered to be minimal on account of the fact that the new road would intersect with the existing R 383 which lies to the north of the ESA. As such the new road would not affect the ESA, nor would it reduce its function.

b) Indicate and describe the habitat condition on site

Habitat Condition	Percentage of habitat condition class (adding up to 100%)	Description and additional Comments and Observations (including additional insight into condition, e.g. poor land management practises, presence of quarries, grazing, harvesting regimes etc).
Natural	0%	
Near Natural (includes areas with low to moderate level of alien invasive plants)	90%	The Habitat can be generally classified as a Xeric environment with limited habitat variation across the site. The vegetation on site has been classified as Bushmanland Arid Grassland (a least threatened vegetation type). The vegetation along the access road cannot be classified as completely natural, as is has been transformed through extensive livestock grazing. This, coupled with an extended period of drought have resulted in extremely sparse vegetation cover. The dominant vegetation form along the access road comprises primarily of *Rhigozum trichotomum*, and *Schmidtia pappophoroides* and *Stipagrostis ciliate.*
Degraded (includes areas heavily invaded by alien plants)	0%	
Transformed	10%	The proposed access road aligns along much of the existing fencelines dividing camps within the property, as well as existing roadways. As such, much of the proposed access road can be

(includes cultivation, dams, urban, plantation, roads, etc)		described as "transformed". Existing roadways and fences associated with the operations of the farm have served to alter bio physical states along the proposed access road

c) Complete the table to indicate:

(i) the type of vegetation, including its ecosystem status, present on the site; and

(ii) whether an aquatic ecosystem is present on site.

Terrestrial Ecosystems		**Aquatic Ecosystems**						
Ecosystem threat status as per the National Environmental Management: Biodiversity Act (Act No. 10 of 2004)	~~Critical~~	Wetland (including rivers, depressions, channelled and unchanneled wetlands, flats, seeps pans, and artificial wetlands)			Estuary		Coastline	
	~~Endangered~~							
	~~Vulnerable~~							
	✓Least Threatened	~~YES~~	✓NO	~~UNSURE~~	~~YES~~	✓NO	~~YES~~	✓NO

d) Please provide a description of the vegetation type and/or aquatic ecosystem present on site, including any important biodiversity features/information identified on site (e.g. threatened species and special habitats)

Please refer to the Ecological Impact Assessment Report attached in Appendix D1 for further details of the ecosystems present on site.

The study area can be described as a generally level portion of land, with a low gradient, straddling the watershed between two non perennial drainage features. To the west of the site, drainage is towards a shallow feature known locally as "Wolfkopse Loop" and to the east, the Rugsrivier. Both drainage systems eventually serve the Hartebeest River, which in turn serves the Sout River and Orange River systems. The proposed access road lies along this watershed between the two systems.

Along the proposed access road, hydrological flow would be primarily associated with sheet flow scenarios under heavy precipitation events, with drainage being overland, before entering into defined watercourses and gullies outside of the study area.

There are a number of rills or erosion points that are associated with the area. Together these rills present dendritic drainage systems, which are temporary in nature and may also be the product of other factors, such as the movement of livestock. The Ecological Specialist does not consider these to be of hydrological significance and has not identified them as features associated with a watercourse.

The establishment of the Sishen – Saldanha railway and supporting infrastructure has served to transform drainage patterns, relative to the south, where flow into the Rugseerivier is more free-draining only impeded by the P 383. The establishment of the railway line has thus had a minor impact on surface hydrology on site, effectively altering the localized hydrology on the site in this area

According to Mucina and Rutherford's veld type classification of 2006, Kenhardt and surrounding regions fall within the Bushmanland Arid Grassland veld type (NKb3). This veld type is located extensively south of the Orange River, but may include a number of smaller habitat forms, such as lithic outcrops or kopjies comprising of quartz and dolerite, within its broader extent.

The most definitive physical drivers of the Bushmanland Arid Grassland veld type that lies within the study area, are meteorological in nature and will relate to surface and subsurface hydrology. Other physical drivers will include localised geologies and edaphics, while wind may also play a significant role in more arid portions of the region.

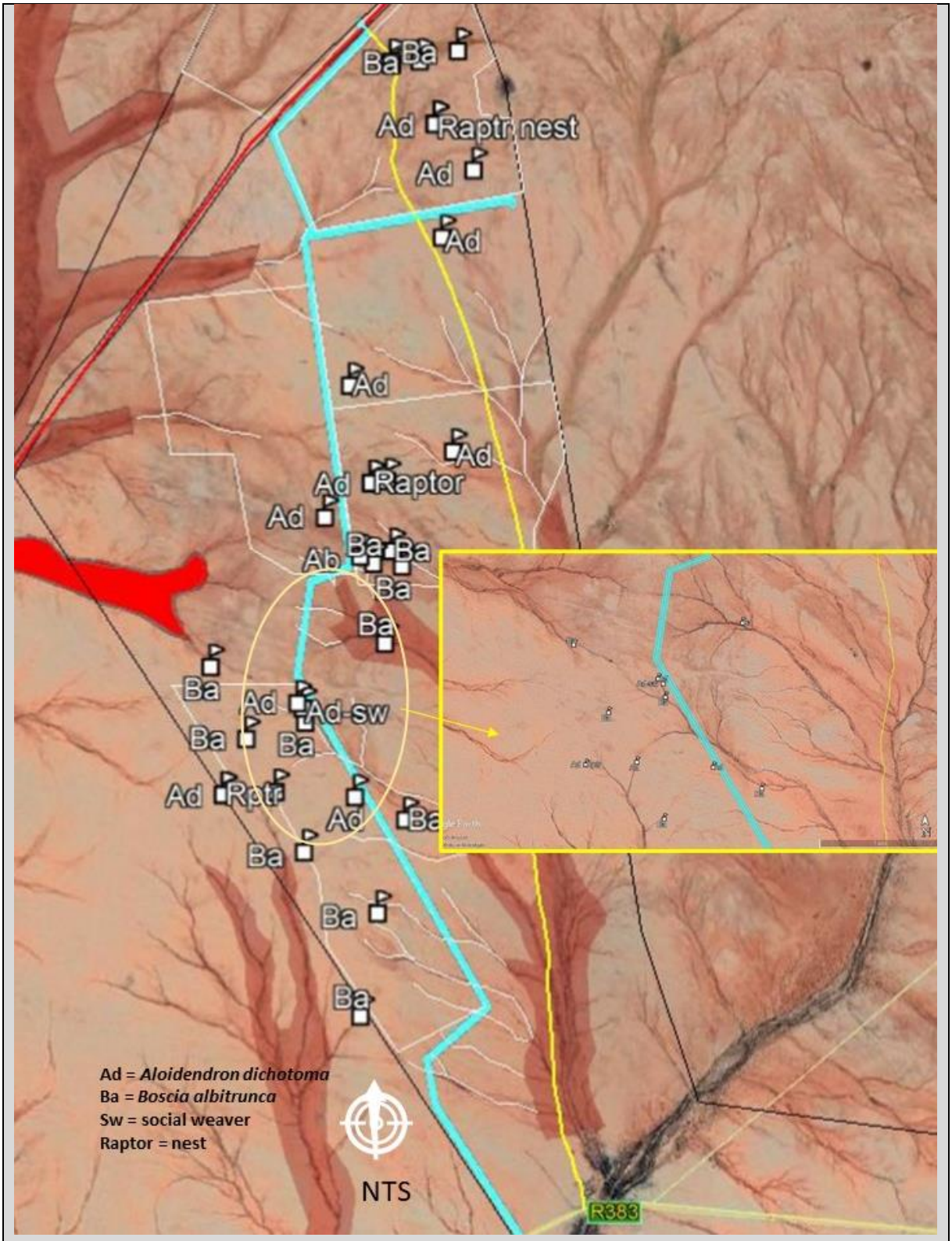
In general, the study area presents a level terrain, with. Along the central watershed, soils comprise of a compact sand, with occasional calcrete or quartz exposures. As such, much of the proposed access road does not exhibit any significant variation in topography, with the exception of the minor points of dendritic drainage.

Vegetation cover is sparse across much of the proposed access road, with simple monospecific or bispecific communities being evident.

On account of the significant drought that has prevailed for some time within the region, as well as the extensive grazing of livestock on the property, much of the proposed access road remains ostensibly devoid of vegetation. The dominant vegetation form along the access road comprises primarily of a Rhigozum trichotomum associes, and at points the graminoids Schmidtia pappophoroides and Stipagrostis ciliata. A list of species located in or proximal to the proposed Kenhardt access road access road is included in the Ecological Impact Assessment Report in Appendix D1.

T two listed trees, namely *Aloidendron dichotoma* and *Boscia albitrunca* are present within the study area. These species do not generally form within vegetative associations and are evidently, randomly scattered across the subject properties.

They are however, slow growing, and clearly tolerant of extended drought periods, being ecological keystone species within the broader veld type and of conservation importance. These specimens have been mapped along the routing.



As can be seen in the image above, four specimens of protected species lie proximal to the proposed access road, however they would not generally be disturbed by the roadway, which would pass within 24 to 50 m of the road. While *Aloe claviflora*, another listed species from the area has been noted to the north of the railway line, no specimens were identified in and around the proposed access road.

SECTION C: PUBLIC PARTICIPATION

1. ADVERTISEMENT AND NOTICE

Publication name	Die Gemsbok – Die Gemsbok is a local newspaper reaching approximately 88200 readers in an area stretching from Kuruman in the east to Port Nolloth in the west and from Keetmanshoop in the north to Calvinia in the south.	
Site notice position[3]	**Latitude**	**Longitude**
	-29.187139	21.304819
	-29.274477	21.31471

Figure 8: Site Notices placed at the start and end of the access road.

Include proof of the placement of the relevant advertisements and notices in Appendix E1.

[3] Two site notices were placed at either end of the proposed access road at the co-ordinates listed.

2. DETERMINATION OF APPROPRIATE MEASURES

Provide details of the measures taken to include all potential I&APs as required by Regulation 41(2)(e) and 41(6) of GN 733.

Considering the extensive engagement that has taken place with I&APs over the years regarding the PV Projects and Grid connection on the property (a total of nine Environmental Impact Assessments[4] as well as six part 2 amendment processes, each with an associated public participation process), it is safe to assume that members of the public and stakeholders have had ample opportunity to provide comments associated with this proposed development as a whole. The extent of comments has decreased over time with each additional report where comment has been requested and this can be attributed to stakeholder fatigue. However, all registered I&APs from the previous thirteen environmental processes on this property will be given the opportunity to comment on this proposed access road.

The public participation will be undertaken in compliance with the EIA regulations as well as with GNR660 published on 05 June 2020 in terms of the Disaster Management Act (57/2002) and titled: Directions Regarding Measures to Address, Prevent and Combat the Spread of COVID-19 Relating to National Environmental Management Permits and Licences. In compliance with section 5.1 and annexure 2 of these regulations, a public participation plan must be presented to the competent authority for approval prior to implementation. This section constitutes the public participation plan and is submitted to the DENC with this application for consideration and approval.

Section 40(2) in Chapter 6 of regulation 982 requires that the public participation process contemplated in this regulation must provide access to all information that reasonably has or may have the potential to influence any decision with regard to an application unless access to that information is protected by law and must include consultation with—

(a) the competent authority;

(b) every State department that administers a law relating to a matter affecting the environment relevant to an application for an environmental authorisation;

(c) all organs of state which have jurisdiction in respect of the activity to which the application relates; and

(d) all potential, or, where relevant, registered interested and affected parties.

In order to comply with this requirement, the proposal is to provide all parties, listed in subsections a, b and c above, with full digital copies of the Draft Basic Assessment Report (DBAR), Draft Environmental Management Programme and all specialist studies and plans. Such digital copies will be provided to the competent authority,

[4] This included 3 Full Scoping and Environmental Impact Reporting Processes and 4 Basic Assessment Processes

organs of state and state departments by means of website and other direct download portals. Where such parties do not have access to such internet portals, digital copies of documentation will be provided by courier service.

In terms of point d above, all Interested & Affected Parties (I&APs) that are identified or register as part of the process will be provided access to the Draft BAR via the following:

1. The digital copy of the documentation that will be on the Cape EAPrac website as well as a direct download link (dropbox and sharepoint).
2. I&APs that do not have access to digital platforms will be provided with physical copies of the report. Such copies will be provided by courier or postal service.
3. Potential and registered I&APs will be informed that copies of the documentation can be provided via postal or courier services.

Section 41 in Chapter 6 of regulation 982 details the public participation process that has to take place as part of an environmental process. The table below lists these requirements along with the proposed actions in order to comply with both section 41 in regulation 982 as well as well as section 5.1 and annexure 2 of regulation 660.

Table 3: Compliance of Public Participation with Legislated Requirements

Regulated Requirement	Description
(1) If the proponent is not the owner or person in control of the land on which the activity is to be undertaken, the proponent must, before applying for an environmental authorisation in respect of such activity, obtain the written consent of the landowner or person in control of the land to undertake such activity on that land. (2) Subregulation (1) does not apply in respect of-. (a) linear activities;	Proof of landowner consent was attached as appendix 3 in the application form that was submitted to the Department. Proof of landowner notification is also annexed to this BAR in Appendix J1.
The person conducting a public participation process must take into account any relevant guidelines applicable to public participation as contemplated in section 24J of the Act and must give notice to all potential interested and affected parties of an application or proposed application which is subjected to public participation by -	
(a) fixing a notice board at a place conspicuous to and accessible by the public at the boundary, on the fence or along the corridor of -	A site notice has been placed at the boundary of the property at the proposed access point along

(i) the site where the activity to which the application or proposed application relates is or is to be undertaken; and (ii) any alternative site;	the R383 as well as at the existing access point along the Transnet Service Road. Photographic evidence of these notices is included in Appendix E2
(b) giving written notice, in any of the manners provided for in section 47D of the Act, to –	
(i) the occupiers of the site and, if the proponent or applicant is not the owner or person in control of the site on which the activity is to be undertaken, the owner or person in control of the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;	The owner is the only current occupier of the site. Landowner consent has been obtained.
(ii) owners, persons in control of, and occupiers of land adjacent to the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;	Adjacent landowners have been notified of the availability of the Draft Basic Assessment Report
(iii) the municipal councillor of the ward in which the site or alternative site is situated and any organisation of ratepayers that represent the community in the area;	The ward councillor has been notified of the availability of the Draft Basic Assessment Report.
(iv) the municipality which has jurisdiction in the area;	The Kheis municipality has been notified of the availability of the Draft BAR.
(v) any organ of state having jurisdiction in respect of any aspect of the activity; and	Please refer to the section below showing the list of organs of state that were notified of the availability of this Draft BAR.
(vi) any other party as required by the competent authority;	The competent authority has been given an opportunity to comment on the Draft Basic Assessment Report. Any additional parties identified by the competent authority during this period will be notified..

(c) placing an advertisement in - (i) one local newspaper; or (ii) any official Gazette that is published specifically for the purpose of providing public notice of applications or other submissions made in terms of these Regulations;	A notice of the public participation process has been placed in "Die Gembok" newspaper. There is currently no official Gazette that has been published specifically for the purpose of providing public notice of applications
(d) placing an advertisement in at least one provincial newspaper or national newspaper, if the activity has or may have an impact that extends beyond the boundaries of the metropolitan or district municipality in which it is or will be undertaken: Provided that this paragraph need not be complied with if an advertisement has been placed in an official Gazette referred to in paragraph (c)(ii);and	Adverts were not placed in provincial or national newspapers, as the potential impacts will not extend beyond the borders of the municipal area.
(e) using reasonable alternative methods, as agreed to by the competent authority, in those instances where a person is desirous of but unable to participate in the process due to - (i) illiteracy; (ii) disability; or (iii) any other disadvantage.	Notifications have included provision for alternative engagement in the event of illiteracy, disability or any other disadvantage. In such instances, Cape EAPrac will engage with such individuals in such a manner as agreed on with the competent authority.
(3) A notice, notice board or advertisement referred to in subregulation (2) must - (a) give details of the application or proposed application which is subjected to public participation; and (b) state - (i) whether basic assessment or S&EIR procedures are being applied to the application; (ii) the nature and location of the activity to which the application relates;	The site notices placed comply with these minimum requirements.

(iii) where further information on the application or proposed application can be obtained; and (iv) the manner in which and the person to whom representations in respect of the application or proposed application may be made.	
(4) A notice board referred to in subregulation (2) must - (a) be of a size at least 60cm by 42cm; and (b) display the required information in lettering and in a format as may be determined by the competent authority.	The site notices placed comply with these minimum requirements.
(5) Where public participation is conducted in terms of this regulation for an application or proposed application, subregulation (2)(a), (b), (c) and (d) need not be complied with again during the additional public participation process contemplated in regulations 19(1)(b) or 23(1)(b) or the public participation process contemplated in regulation 21(2)(d), on condition that - (a) such process has been preceded by a public participation process which included compliance with subregulation (2)(a), (b), (c) and (d); and (b) written notice is given to registered interested and affected parties regarding where the - (i) revised basic assessment report or, EMPr or closure plan, as contemplated in regulation 19(1)(b); (ii) revised environmental impact report or EMPr as contemplated in regulation 23(1)(b);or (iii) environmental impact report and EMPr as contemplated in regulation 21(2)(d); may be obtained, the manner in which and the person to whom representations on these reports	Due to the fact that stakeholders or specialists have not raised significant concerns on this environmental process, it is not envisioned that this project will be required to compile a revised Basic Assessment Report. However this will be confirmed after the public participation period.

or plans may be made and the date on which such representations are due.	
(6) When complying with this regulation, the person conducting the public participation process must ensure that - (a) information containing all relevant facts in respect of the application or proposed application is made available to potential interested and affected parties; and (b) participation by potential or registered interested and affected parties is facilitated in such a manner that all potential or registered interested and affected parties are provided with a reasonable opportunity to comment on the application or proposed application. (7) Where an environmental authorisation is required in terms of these Regulations and an authorisation, permit or licence is required in terms of a specific environmental management Act, the public participation process contemplated in this Chapter may be combined with any public participation processes prescribed in terms of a specific environmental management Act, on condition that all relevant authorities agree to such combination of processes.	All reports that are submitted to the competent authority have been subjected to a public participation process. These include: - Draft Basic Assessment Report - All specialist reports - All technical and design reports - Draft Environmental Management Programme .

Key stakeholders (other than organs of state) identified in terms of Regulation 41(2)(b) of GN 733

Title, Name and Surname	Affiliation/ key stakeholder status	Contact details (tel number or e-mail address)
Birdlife Africa	NGO. Automatically registered	See attached I&AP Register
Kheis Local Municipality	Local Authority. Automatically registered	See attached I&AP Register
Department of Agriculture,	National Department. Automatically registered	See attached I&AP Register

Department of Water Affairs	National Department. Automatically registered	See attached I&AP Register
Square Kilometre Array / SARAO	Implementing Agent for National Authority. Automatically registered	See attached I&AP Register
Department of Environment and Nature Conservation	Provincial Authority. Automatically registered	See attached I&AP Register
Eskom	State Owned Enterprise. Automatically registered	See attached I&AP Register
Sentech	Implementing Agent for National Authority. Automatically registered	See attached I&AP Register
Department of Communications	National Department. Automatically registered	See attached I&AP Register
Roads and Public Works	Provincial Authority. Automatically registered	See attached I&AP Register
Department of Energy	National Authority. Automatically registered	See attached I&AP Register
Department of Rural Development and Land Reform	National Authority. Automatically registered	See attached I&AP Register
SAHRA	Implementing Agency. Automatically registered	See attached I&AP Register
Transnet	State Owned Enterprise. Automatically registered	See attached I&AP Register

Include proof that the key stakeholder received written notification of the proposed activities as Appendix E2. This proof may include any of the following:

- e-mail delivery reports;
- registered mail receipts;
- courier waybills;
- signed acknowledgements of receipt; and/or
- or any other proof as agreed upon by the competent authority.

Proof of correspondence with stakeholders will be included in the Final Basic Assessment Report on completion of the public participation process.

3. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

This section will be updated after the completion of the public participation process.

Summary of main issues raised by I&APs	Summary of response from EAP
None to date	None to date

4. COMMENTS AND RESPONSE REPORT

The practitioner must record all comments received from I&APs and respond to each comment before the Draft BAR is submitted. The comments and responses must be captured in a comments and response report as prescribed in the EIA regulations and be attached to the Final BAR as Appendix E3.

A comments and responses report will be appended to the final Basic Assessment Report after completion of the public participation and stakeholder engagement process.

5. AUTHORITY PARTICIPATION

Authorities and organs of state identified as key stakeholders:

First Name	Surname	Company/ Organisation	Position/Interest
Mmatlala	Rabothatha	National Department of Environment Forestry and Fisheries: Department of Environmental Affairs: Integrated Environmental Authorisations	Competent Authority for the PV developments. Commenting Authority in Respect of this Application
Muhammad	Essop	National Department of Environment Forestry and Fisheries: Integrated Environmental Authorisations	Competent Authority for the PV developments. Commenting Authority in Respect of this Application
Herman Alberts	Alberts	National Department of Environment, Forestry and Fisheries: Integrated Environmental Authorisations	Competent Authority for the PV developments. Commenting Authority in Respect of this Application
Seoka	Lekota	National Department of Environment, Forestry and Fisheries: Biodiversity	Commenting National Authority
A	Yaphi	Provincial Department of Environment and Nature Conservation: Northern Cape	Provincial Environmental Authority

First Name	Surname	Company/ Organisation	Position/Interest
M	Mathews	Provincial Department of Environment and Nature Conservation: Northern Cape	Provincial Environmental Authority
Samantha	De la Fontaine	Provincial Department of Environment and Nature Conservation: Northern Cape	Provincial Environmental Authority (District Ecologist (Candidate Scientist)
Elsabe	Swart	Provincial Department of Environment and Nature Conservation: Northern Cape	Provincial Environmental Authority Deputy Director: Research & Development Support
Eric	Ngxanga	ZF Mgcawu District Municipality - Municipal Manager	District Authority, Municipal Manager
Frikkie	Ruping	ZF Mgcawu District Municipality - Environmental Manager	District Authority, Environmental Manager
H.T	Scheepers	!Kheis Municipality - Municipal Manager	Local Authority, Municipal Manager
Gloria	Matlakala	!Kheis Municipality	Local Authority
JG	Lategan	Kai ! Garib Municipality - Municipal Manager	Local Authority
M.	Clarke	Kai ! Garib Municipality - Manager: Electromechanical Services	Local Authority
Mashudu	Randwedzi	Department of Water Affairs	National Authority
Melinda	Mei	Department of Water Affairs	National Authority
Shaun	Cloete	Department of Water Affairs	National Authority
Chantèl	Schwartz	Department of Water Affairs	National Authority
Mandla	Ndzilili	Ministry of Environment and Nature Conservation	Provincial Authority
Sibonelo	Mbanjwa	Provincial Department of Environment and Nature Conservation: Northern Cape	Provincial Authority
Luzane	Tools-Bernado	Provincial DENC: Northern Cape	Provincial Authority
Mashudu	Marubini	Department of Agriculture, Land Reform and Rural Development - Delegate of the Minister (Act 70 of 1970)	Delegate of the Minister (Act 70 of 1970)
Thoko	Buthelezi	Department of Agriculture, Land Reform and Rural Development - AgriLand Liaison office	National Authority
D	Nhlakad	Department of Agriculture, Land Reform and Rural Development - AgriLand Liaison office	National Authority

First Name	Surname	Company/ Organisation	Position/Interest
Anneliza	Collett	Department of Agriculture, Land Reform and Rural Development - AgriLand Liaison office	National Authority
Jacoline	Mans	Department of Agriculture, Land Reform and Rural Development - Chief Forester: NFA Regulation	National Authority
Ali	Diteme	Agriculture, Land Reform & Rural Development	National Authority
Pieter	Buys	National Energy Regulator of South Africa (NERSA)	Regulatory Agency
IA	Bulane	Department of Public Works, Roads and Transport	Provincial Authority
Denver	Van Heerden	Department of Public Works, Roads and Transport	Provincial Authority
Rene	de kock	South African Roads Agency Limited (SANRAL) Northern Cape (Western Region)	National Authority
Nicole	Abrahams	South African Roads Agency Limited (Western Region)	National Authority
M	Lepheane	Department of Labour	National Authority
A	Botes	Department of Social Development	National Authority
Riaan	Warie	Northern Cape Economic Development Agency	National Authority
Andrew	Timothy	Directorate Heritage, Department - Sports, Arts and Culture	National Authority
Lizell	Stroh	South African Civilian Aviation Authority	Regulatory Agency
John	Geeringh	ESKOM	Commenting authority
Kevin	Leask	ESKOM	Commenting authority
Justine	Wyngaardt	Eskom Holdings Limited: Eskom Distribution Western Operating Unit	Commenting authority
Lindi	Haarhoff	ESKOM (Nieuwehoop Substation)	Commenting authority
Marina	Lourens	Transnet Freight Rail	State Owned Enteprise
Gilbert	Nortier	Transnet Freight Rail	State Owned Enteprise
Mayvyn	Bhana	Transnet	State Owned Enteprise
Clive	Stephenson	Transnet	State Owned Enteprise
The Director		Department of Energy Northern Cape	Provincial Authority

First Name	Surname	Company/ Organisation	Position/Interest
Ragna	Redelstorff	SAHRA	Regulatory Agency
Kgauta	Mokoena	Department of Mineral Resources	National Department
Elliot	Sibeko	Department of Telecommunication & Postal Services	National Department
Raoul	Van den Berg	Southern African Large Telescope (SALT) Sutherland	SALT Project Manager

Include proof that the Authorities and Organs of State received written notification of the proposed activities as appendix E4.

In the case of renewable energy projects, Eskom and the SKA Project Office must be included in the list of Organs of State.

6. CONSULTATION WITH OTHER STAKEHOLDERS

Note that, for any activities (linear or other) where deviation from the public participation requirements may be appropriate, the person conducting the public participation process may deviate from the requirements of that sub-regulation to the extent and in the manner as may be agreed to by the competent authority.

Proof of any such agreement must be provided, where applicable. Application for any deviation from the regulations relating to the public participation process must be submitted prior to the commencement of the public participation process.

A list of registered I&APs must be included as appendix E5.

Copies of any correspondence and minutes of any meetings held must be included in Appendix E6.

SECTION D: IMPACT ASSESSMENT

The assessment of impacts must adhere to the minimum requirements in the EIA Regulations, 2014 and should take applicable official guidelines into account. The issues raised by interested and affected parties should also be addressed in the assessment of impacts.

1. IMPACTS THAT MAY RESULT FROM THE PLANNING AND DESIGN, CONSTRUCTION, OPERATIONAL, DECOMMISSIONING AND CLOSURE PHASES AS WELL AS PROPOSED MANAGEMENT OF IDENTIFIED IMPACTS AND PROPOSED MITIGATION MEASURES

Provide a summary and anticipated significance of the potential direct, indirect and cumulative impacts that are likely to occur as a result of the planning and design phase, construction phase, operational phase, decommissioning and closure phase, including impacts relating to the choice of site/activity/technology alternatives as well as the mitigation measures that may eliminate or reduce the potential impacts listed. This impact assessment must be applied to all the identified alternatives to the activities identified in Section A(2) of this report.

Activity	Impact summary	Significance	Proposed mitigation
Alternative C (preferred alternative)			
	Direct impacts:		
	Alteration of the local hydrological regime.	Very low	Measures to moderate surface run off from the roadway and control stormwater discharge from the hardpan surface should be employed. This can include dissipation measures and attenuation systems to be employed in an overall stormwater management system.
	Sediment transport	Very low	Measures to address the transport and accumulation of sediments along the roadway, particularly where surfaces may promote increased run off, should be established. This would include the stabilisation of sands and soils accumulated during the construction phases, as well as addressing the accumulation of aeolian sands during the operational phase.
	Alteration of habitat	Very low	Alteration of habitat will arise as a consequence of the establishment of the roadway. Measures to be employed should however be left to the discretion of the environmental control officer depending upon the management outcome desired for the broader area in general. Such measures may include

Activity	Impact summary	Significance	Proposed mitigation
			the clearance of vegetation, or alternatively the maintenance and enhancement of vegetation to encourage and promote growth of specific specimens or species.
	Alteration of faunal ethos	Low	There are limited measures to be employed in addressing change in faunal behaviours at community or species level.
	Spillages and general run off	Very low	Avoidance and redress of spills can best be achieved by ensuring the utilsation of well maintained vehicles, the sound containment of liquids being transported across the route and the redress of spills through appropriate clean up operations if and when spillage arises.
	Road mortalities	Very low	The reduction in road mortalities is best achieved by ensuring vehicles travel at low speed along the road way and drivers and aware of fauna that may be crossing the road i.e. signage.
	Electrical light pollution	Very low	Little mitigation can be offered in redress of ELP
	Noise and related “nuisance” factors	Very low	The presence of persons along the roadway and factors such as noise should be managed as part of the overall environmental management protocols of the farm and site in general. Increased pedestrian and vehicular movement along the route can be expected and with the implementation of the above measures, the overall “nuisance” factor on site should diminish
	Impact to Archaeological Resources	Low	No mitigation measures are proposed. It would, however, be required of the contractor to stop work and report any potential heritage finds made during development
	Impacts to Graves	Low	No mitigation measures are proposed but, if a grave is found during construction, it would be required of the contractor to stop work and report the find.
	Impacts to the Cultural Landscape	Low	All gates and fencing associated with the access road should be in keeping with the nature of farm fences. No trees at the farmstead should be removed

Activity	Impact summary	Significance	Proposed mitigation
	Impacts on local fossil heritage	Negligible – Very Low.	Should substantial fossil remains - such as vertebrate bones and teeth, shells, trace fossils or subfossil wood - be encountered at surface or exposed during construction, the ECO should safeguard these, preferably in situ. They should then alert the South African Heritage Resources Agency (SAHRA) to ensure that appropriate action (i.e. recording, sampling or collection of fossils, recording of relevant geological data) can be taken by a professional palaeontologist at the developer's expense
	Traffic Congestion	Low	Stagger component delivery to site Reduce the construction period The use of mobile batch plants and quarries in close proximity to the site Staff and general trips should occur outside of peak traffic periods. Regular maintenance of gravel roads by the Contractor during the construction phase and by Client/Facility Manager during operation phase.
	Dust Pollution as a result of increased traffic	Low	Dust Suppression of gravel roads during the construction phase, as required. Regular maintenance of gravel roads by the Contractor during the construction phase and by Client/Facility Manager during operation phase.
	Noise pollution due to increased traffic	Low	Stagger component delivery to site. Reduce the construction period as far as possible. The use of mobile batch plants and quarries in close proximity to the site. Staff and general trips should occur outside of peak traffic periods.
	Indirect impacts:		
	All impacts identified by the EAP and participating specialists are deemed to be direct. No significant indirect impacts have been identified.		
	Cumulative impacts:		

Activity	Impact summary	Significance	Proposed mitigation
	Cumulative Ecological Impacts	Negligible	Decommission sections of the existing farm track that are not required for remaining agricultural activities on the site.
	Cumulative Impact of Traffic generated by the proposed development and the associated noise and dust pollution in the vicinity of the proposed access point	Medium	Stagger component delivery to site. Dust suppression. Reduce the construction period. The use of mobile batch plants and quarries in close proximity to the site. Staff and general trips should occur outside of peak traffic periods.
	Cumulative Impact on Archaeological Resources	Low	No mitigation required
	Cumulative Impact on Cultural Landscape	Low	No mitigation required
Alternative B (Existing Farm Track)			
	Direct impacts:		
	Alteration of the local hydrological regime.	Low	Measures to moderate surface run off from the roadway and control stormwater discharge from the hardpan surface should be employed. This can include dissipation measures and attenuation systems to be employed in an overall stormwater management system.
	Sediment transport	Very low	Measures to address the transport and accumulation of sediments along the roadway, particularly where surfaces may promote increased run off, should be established. This would include the stabilisation of sands and soils accumulated during the construction phases, as well as addressing the accumulation of aeolian sands during the operational phase.
	Alteration of habitat	Very low	Alteration of habitat will arise as a consequence of the establishment of the roadway. Measures to be employed should however be left to the discretion of the environmental control officer depending upon the management outcome desired for the broader area in general. Such measures may include the clearance of vegetation, or

Activity	Impact summary	Significance	Proposed mitigation
			alternatively the maintenance and enhancement of vegetation to encourage and promote growth of specific specimens or species.
	Alteration of faunal ethos	Low	There are limited measures to be employed in addressing change in faunal behaviours at community or species level.
	Spillages and general run off	Very low	Avoidance and redress of spills can best be achieved by ensuring the utilsation of well maintained vehicles, the sound containment of liquids being transported across the route and the redress of spills through appropriate clean up operations if and when spillage arises.
	Road mortalities	Very low	The reduction in road mortalities is best achieved by ensuring vehicles travel at low speed along the road way and drivers and aware of fauna that may be crossing the road i.e. signage.
	Electrical light pollution	Very low	Little mitigation can be offered in redress of ELP
	Noise and related “nuisance” factors	Very low	The presence of persons along the roadway and factors such as noise should be managed as part of the overall environmental management protocols of the farm and site in general. Increased pedestrian and vehicular movement along the route can be expected and with the implementation of the above measures, the overall “nuisance” factor on site should diminish
	Impact to Archaeological Resources	Low	No mitigation measures are proposed. It would, however, be required of the contractor to stop work and report any potential heritage finds made during development
	Impacts to Graves	Low	No mitigation measures are proposed but, if a grave is found during construction, it would be required of the contractor to stop work and report the find.
	Impacts to the Cultural Landscape	Low	All gates and fencing associated with the access road should be in keeping with the nature of farm fences. No trees at the farmstead should be removed

Activity	Impact summary	Significance	Proposed mitigation
	Impacts on local fossil heritage	Negligible – Very Low.	Should substantial fossil remains - such as vertebrate bones and teeth, shells, trace fossils or subfossil wood - be encountered at surface or exposed during construction, the ECO should safeguard these, preferably in situ. They should then alert the South African Heritage Resources Agency (SAHRA) to ensure that appropriate action (i.e. recording, sampling or collection of fossils, recording of relevant geological data) can be taken by a professional palaeontologist at the developer's expense
	Traffic Congestion	Low	Stagger component delivery to site Reduce the construction period The use of mobile batch plants and quarries in close proximity to the site Staff and general trips should occur outside of peak traffic periods. Regular maintenance of gravel roads by the Contractor during the construction phase and by Client/Facility Manager during operation phase.
	Dust Pollution as a result of increased traffic	Low	Dust Suppression of gravel roads during the construction phase, as required. Regular maintenance of gravel roads by the Contractor during the construction phase and by Client/Facility Manager during operation phase.
	Noise pollution due to increased traffic	Low	Stagger component delivery to site. Reduce the construction period as far as possible. The use of mobile batch plants and quarries in close proximity to the site. Staff and general trips should occur outside of peak traffic periods.
	Indirect impacts:		
	All impacts identified by the EAP and participating specialists are deemed to be direct. No significant indirect impacts have been identified.		
	Cumulative impacts:		

Activity	Impact summary	Significance	Proposed mitigation
	Cumulative Ecological Impacts	Negligible	Decommission sections of the existing farm track that are not required for remaining agricultural activities on the site.
	Cumulative Impact of Traffic generated by the proposed development and the associated noise and dust pollution in the vicinity of the proposed access point	Medium	Stagger component delivery to site. Dust suppression. Reduce the construction period. The use of mobile batch plants and quarries in close proximity to the site. Staff and general trips should occur outside of peak traffic periods.
	Cumulative Impact on Archaeological Resources	Low	No mitigation required
	Cumulative Impact on Cultural Landscape	Low	No mitigation required
Alternative A (Transnet Service Road)			
	Direct impacts:		
	Alteration of the local hydrological regime.	Very low	Measures to moderate surface run off from the roadway and control stormwater discharge from the hardpan surface should be employed. This can include dissipation measures and attenuation systems to be employed in an overall stormwater management system.
	Sediment transport	Very low	Measures to address the transport and accumulation of sediments along the roadway, particularly where surfaces may promote increased run off, should be established. This would include the stabilisation of sands and soils accumulated during the construction phases, as well as addressing the accumulation of aeolian sands during the operational phase.
	Alteration of habitat	Very low	Alteration of habitat will arise as a consequence of the establishment of the roadway. Measures to be employed should however be left to the discretion of the environmental control officer depending upon the management outcome desired for the broader area in general. Such measures may include the clearance of vegetation, or

Activity	Impact summary	Significance	Proposed mitigation
			alternatively the maintenance and enhancement of vegetation to encourage and promote growth of specific specimens or species.
	Alteration of faunal ethos	Low	There are limited measures to be employed in addressing change in faunal behaviours at community or species level.
	Spillages and general run off	Very low	Avoidance and redress of spills can best be achieved by ensuring the utilsation of well maintained vehicles, the sound containment of liquids being transported across the route and the redress of spills through appropriate clean up operations if and when spillage arises.
	Road mortalities	Very low	The reduction in road mortalities is best achieved by ensuring vehicles travel at low speed along the road way and drivers and aware of fauna that may be crossing the road i.e. signage.
	Electrical light pollution	Very low	Little mitigation can be offered in redress of ELP
	Noise and related “nuisance” factors	Very low	The presence of persons along the roadway and factors such as noise should be managed as part of the overall environmental management protocols of the farm and site in general. Increased pedestrian and vehicular movement along the route can be expected and with the implementation of the above measures, the overall “nuisance” factor on site should diminish
	Impact to Archaeological Resources	None	No Mitigation required
	Impacts to Graves	None	No Mitigation required.
	Impacts to the Cultural Landscape	None	No Mitigation required
	Impacts on local fossil heritage	Negligible – Very Low.	Should substantial fossil remains - such as vertebrate bones and teeth, shells, trace fossils or subfossil wood - be encountered at surface or exposed during construction, the ECO should safeguard these, preferably in situ. They should then alert the South African Heritage Resources Agency (SAHRA) to ensure that appropriate action (i.e. recording, sampling or collection of fossils, recording of relevant geological

Activity	Impact summary	Significance	Proposed mitigation
			data) can be taken by a professional palaeontologist at the developer's expense
	Traffic Congestion	Low	Stagger component delivery to site Reduce the construction period The use of mobile batch plants and quarries in close proximity to the site Staff and general trips should occur outside of peak traffic periods. Regular maintenance of gravel roads by the Contractor during the construction phase and by Client/Facility Manager during operation phase.
	Dust Pollution as a result of increased traffic	Low	Dust Suppression of gravel roads during the construction phase, as required. Regular maintenance of gravel roads by the Contractor during the construction phase and by Client/Facility Manager during operation phase.
	Noise pollution due to increased traffic	Low	Stagger component delivery to site. Reduce the construction period as far as possible. The use of mobile batch plants and quarries in close proximity to the site. Staff and general trips should occur outside of peak traffic periods.
	Indirect impacts:		
	All impacts identified by the EAP and participating specialists are deemed to be direct. No significant indirect impacts have been identified.		
	Cumulative impacts:		
	Cumulative Ecological Impacts	Negligible	Decommission sections of the existing farm track that are not required for remaining agricultural activities on the site.
	Cumulative Impact of Traffic generated by the proposed development and the associated noise and dust	Medium	Stagger component delivery to site. Dust suppression. Reduce the construction period.

Activity	Impact summary	Significance	Proposed mitigation
	pollution in the vicinity of the proposed access point		The use of mobile batch plants and quarries in close proximity to the site. Staff and general trips should occur outside of peak traffic periods.
	Cumulative Impact on Archaeological Resources	None	No mitigation required
	Cumulative Impact on Cultural Landscape	None	No mitigation required
No-go option			
The no go alternative is deemed to be the option of not proceeding with the activities applied for. In this instance, the no go alternative will be to access the authorised PV sites, using the access roads as authorised as part of the PV facilities and the Powerline. This would essentially entail the utilization of both Access road alternative A as well as Access road alternative C as described and assessed above. The significance of impacts described under access road alternative A and B above would therefor apply.			

A complete impact assessment in terms of Regulation 19(3) of GN 733 must be included as Appendix F.

2. ENVIRONMENTAL IMPACT STATEMENT

Taking the assessment of potential impacts into account, please provide an environmental impact statement that summarises the impact that the proposed activity and its alternatives may have on the environment after the management and mitigation of impacts have been taken into account, with specific reference to types of impact, duration of impacts, likelihood of potential impacts actually occurring and the significance of impacts.

Alternative C (preferred alternative)

The overall negative impacts associated with alternative C range from low to negligible, with cumulative impacts ranging from medium to negligible. Alternative C has very similar impacts to Alternative A, but will have a lower impact on the hydrological regime as it avoids the delineated watercourse. Alternative C is preferred for the following reasons:

1. It provides a single access to all 6 PV project sites, without the need to cross the PV fields;

2. It avoids all sensitive watercourses, including the main watercourse and secondary drainage lines;

3. Other than the point where it crosses the Transnet service road, it remains within the affected property; and

4.The same access can be utilised for both the construction and operational access of the area.

Due to the generally low environmental impact as well as the benefits of being able to access all six PV sites via a single access road, it is Cape EAPrac's reasoned opinion that Access Road Alternative C be considered for approval.

Alternative B

The impacts associated with Alternative A are very similar to those of the Preferred alternative (Alternative C) except that it has a higher impact on the hydrological regime due to its direct impact on the secondary watercourse. Alternative A is less preferred for the following reasons:

1. It crosses multiple sensitive drainage lines;

2. The Southern portion falls within the floodplain of the major watercourse; and

3. If PV 2, 3 and 4 are constructed first, then construction access to the remaining projects would be cut off, thus necessitating the utilisation of alternative A to provide access to the remaining projects.

Alternative A

From an ecological perspective, Alternative A has similar impacts to both alternatives B and C, as it will require the significant upgrade of the Transnet service road which will have an impact on the terrestrial ecology and hydrological regime. The heritage impacts of alternative A are lower than that of the other two alternatives. It is noteworthy that A would likely have a higher impact than the preferred alternative, as it would still require the construction of the roads authorised as part of the PV projects and powerline. Access Alternative A is less preferred for the following reasons:

1. The ownership of the land is as part of a Transnet servitude over multiple properties.

2. The road is excessively long.

3. The road is currently utilised by Transnet as a service road for the Sishen - Saldanha railway line. Additional traffic generated during construction may not be supported by Transnet.

4. The entrance point into Kenhardt PV2 will have to cross the Sishen – Saldanha railway line, meaning that all construction vehicles for 5 of the projects will have to cross this railway line. It is possible that this will not be supported by Transnet.

5. Should the outcome of any future bidding necessitate the construction of Kenhardt PV 2 prior to the other projects, it would mean that all construction traffic to the southern projects would have to be diverted through operational site/s.

6. The upgrade of this road would necessitate the construction of multiple watercourse crossings, increasing the overall environmental impact of the road.

No-go alternative (compulsory)

The no go alternative consists of constructing the access road as authorised in the Main Facilities Environmental Authorisations as well as the roads authorised in the powerline environmental authorisation.

As described above, the authorised access roads will require multiple roads to be constructed, rather than a single integrated road as proposed in alternative C. The no go alternative is thus not deemed reasonable, nor feasible but has been used as a baseline against which impacts were be assessed.

SECTION E. RECOMMENDATION OF PRACTITIONER

Is the information contained in this report and the documentation attached hereto sufficient to make a decision in respect of the activity applied for (in the view of the environmental assessment practitioner)?	✓YES	~~NO~~

If "NO", indicate the aspects that should be assessed further as part of a Scoping and EIA process before a decision can be made (list the aspects that require further assessment).

If "YES", please list any recommended conditions, including mitigation measures that should be considered for inclusion in any authorisation that may be granted by the competent authority in respect of the application.

- Measures to moderate surface run off from the roadway and control stormwater discharge from the hardpan surface must be implemented.
- Measures to address the transport and accumulation of sediments along the roadway, particularly where surfaces may promote increased run off, must be implemented.
- The site camp during construction of the access road must make use of one of the site camps or laydown areas approved as part of the PV development.
- An ECO must be appointed prior to any earthworks.
- Strict speed limits of no more than 40km per hour must be enforced during both the construction and operational phases.
- All gates and fencing associated with the access road should be in keeping with the nature of farm fences.
- No trees at the existing farmstead should be removed
- Should substantial fossil remains - such as vertebrate bones and teeth, shells, trace fossils or subfossil wood - be encountered at surface or exposed during construction, the ECO should safeguard these, preferably in situ. They should then alert the South African Heritage Resources Agency (SAHRA) to ensure that appropriate action (i.e. recording, sampling or collection of fossils, recording of relevant geological data) can be taken by a professional palaeontologist at the developer's expense.
- Should substantial archaeological remains – including potential grave sites - be encountered at surface or exposed during construction, the ECO should safeguard these, in situ. They should then alert the South African Heritage Resources Agency (SAHRA) to ensure that appropriate action can be taken by a professional Heritage Practitioner at the developer's expense
- Dust Suppression during the construction phase, must take place to ensure compliance with the Dust Control Regulations.

Is an EMPr attached?	✓YES	~~NO~~

The EMPr must be attached as Appendix G.

The details of the EAP who compiled the BAR and the expertise of the EAP to perform the Basic Assessment process must be included as Appendix H.

If any specialist reports were used during the compilation of this BAR, please attach the declaration of interest for each specialist in Appendix I.

Any other information relevant to this application and not previously included must be attached in Appendix J.

_____

NAME OF EAP

_____ _____

SIGNATURE OF EAP DATE

SECTION F: APPENDIXES

The following appendixes must be attached:

Appendix A: Maps

Appendix B: Photographs

Appendix C: Facility illustration(s)

Appendix D: Specialist reports (including terms of reference)

Appendix E: Public Participation

Appendix F: Impact Assessment

Appendix G: Environmental Management Programme (EMPr)

Appendix H: Details of EAP and expertise

Appendix I: Specialist's declaration of interest

Appendix J: Additional Information