agriculture, environmental affairs,
rural development and land reform

Department:
agriculture, environmental affairs,
rural development and land reform .
NORTHERN CAPE PROVINCE
REPUBLIC OF SOUTH AFRICA

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(For official use only)

File Reference Number:	
Application Number:	NC/BA/08/PIX/EMT/DEA1/2023
Date Received:	

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 **08 December 2014**. 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.

1. ACTIVITY DESCRIPTION

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

Eskom has agreed to the construction of a Main Transmission Substation (MTS) to deliver electricity to the Eskom system, specifically the existing 400 kV Hydra-Poseidon overhead transmission line (Line 2 initially and possibly even Line 1 in future) via a new Loop-In, Loop-Out 400 kV electricity transmission line. Eskom stated in the user requirements specification that the MTS is to be designed with a capacity up to 2 GW, so that it has the capacity to receive electricity generated by the applicant's (Solar Africa Energy (Pty) Ltd) 300 MW Solar PV facility (Sun Central Cluster 1) and any future electricity generation facilities that would apply to feed into the grid at the same location.

The 2 GW MTS includes *inter alia* sufficient feeder bays for up to four (4) 500 MVA transformers. Each transformer must be transported on a 270 tonne, 40 m to 60 m-long truck and trailer combination. Given the weight and length of the trailer delivering the abnormal loads to site (e.g., the turning circle will be a minimum of 24m) the access road must meet the minimum Eskom specifications to ensure the safe delivery of equipment to site during construction and during future maintenance and operations, if ever required.

Equipment will be transported to site using the left, north-bound lane of the N10 from Hanover and then turn right on to the dedicated access road.

Access Road

The access road can be divided into three sections:

(1) an existing **public** 'Burgerville' District Road (2448),

(2) existing **private** farm tracks, and

(3) a new road to the Switching Station and MTS. The portion of new road is required as Eskom needs unrestricted access to both substations, that is without traversing the fenced Sun Central Cluster 1 development footprint.

The SALA application for the entire access road refers to a 19 m-wide Right of way servitude. The statutory road reserve width for the **public** 'Burgerville' District Road is 20 m. Where the fence line width on the Divisional Road is less than 20 m, this will be realigned to 20 m to ensure the proper road reserve is maintained and the upgrading can take place unhindered. The section of private farm tracks that will be widened and the section of new road to be built (from the boundary of Farm Riet Fountain No. 39C to the MTS) will be fenced on either side for construction purposes at 19 m width for the entire section. Gates will be provided, to allow livestock transfer between fences in appropriate position. This fence will remain in place as a permanent fixture as the IPP and ESKOM will require regular, constant, and unhindered access to their respective plants.

1. Existing Public 'Burgerville' District Road (2448)

The section of public 'Burgerville' District Road (2448) that needs to be upgraded extends from its intersection with the N10, through the Remainder of Farm Blaauwbosch Kuilen Outspan No. 37, the Remainder of Farm

Barends Kuilen No. 38, and ends at the boundary of Farm Riet Fountain No. 39C (**Figure 1**). This road is classed as an R4 rural collector road (TRH 26 South African Road Classification and Access Management Manual).

Figure 1. Properties intersected by the section of public 'Burgerville' District Road (2448) from its intersection with the N10 (pink line) to the farm boundary of Riet Fountain No. 39C (yellow line).

Several potential watercourses (**Figure 2**), including an existing pipe culvert crossing, will be affected by the proposed upgrade.

Figure 2. Section of existing public 'Burgerville' District Road (2448) from its intersection with the N10 **(1)** to its intersection with the existing private road (farm track) at the boundary of Farm Riet Fountain 39C **(2)**. Red lines indicate flood plain soils (possible watercourses).

The bellmouth design at the N10/ 'Burgerville' District Road (2448) turn-off must be widened to accommodate an abnormal load to safely turn off the N10 on to the gravel road. The N10 will not be widened. The reshaping or re-design applies to the 'Burgerville' District Road (2448) only. The intersection adjoining the N10 will be widened from an existing width of approximately 25,7 m (**Figure 3**) to approximately 60 m (measured along the top of the road) (**Figure 4**) to accommodate the required turning circle from both directions and then gradually taper along a length of 20 m to the specified 7 m shoulder width.

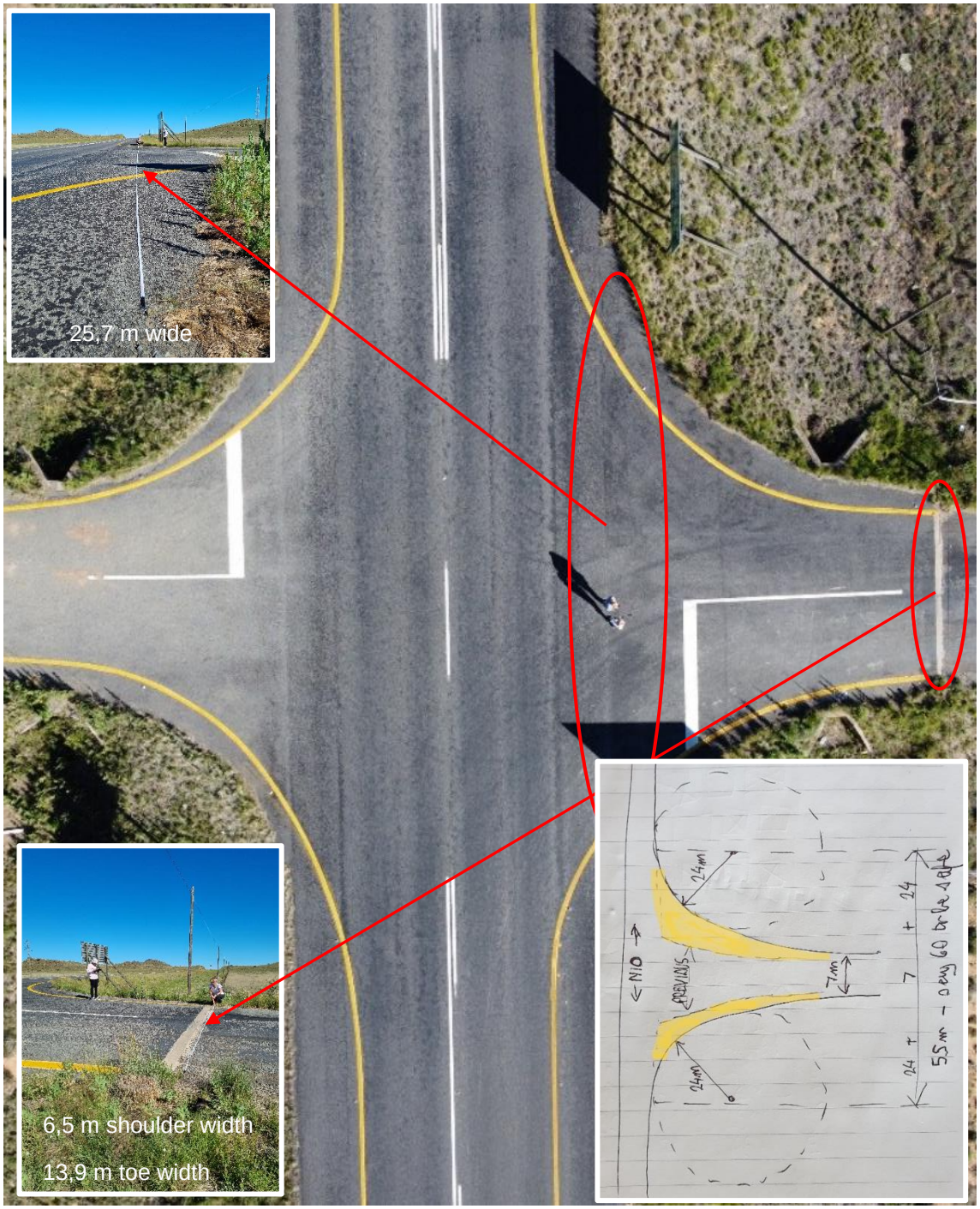

Figure 3. The Bellmouth Design of the N10/'Burgerville' District Road (2448), including a sketch of its planned widening (indicated by the yellow shading). The current turning circle is approximately 17 m, so will require widening to a minimum of 24 m (see sketch).

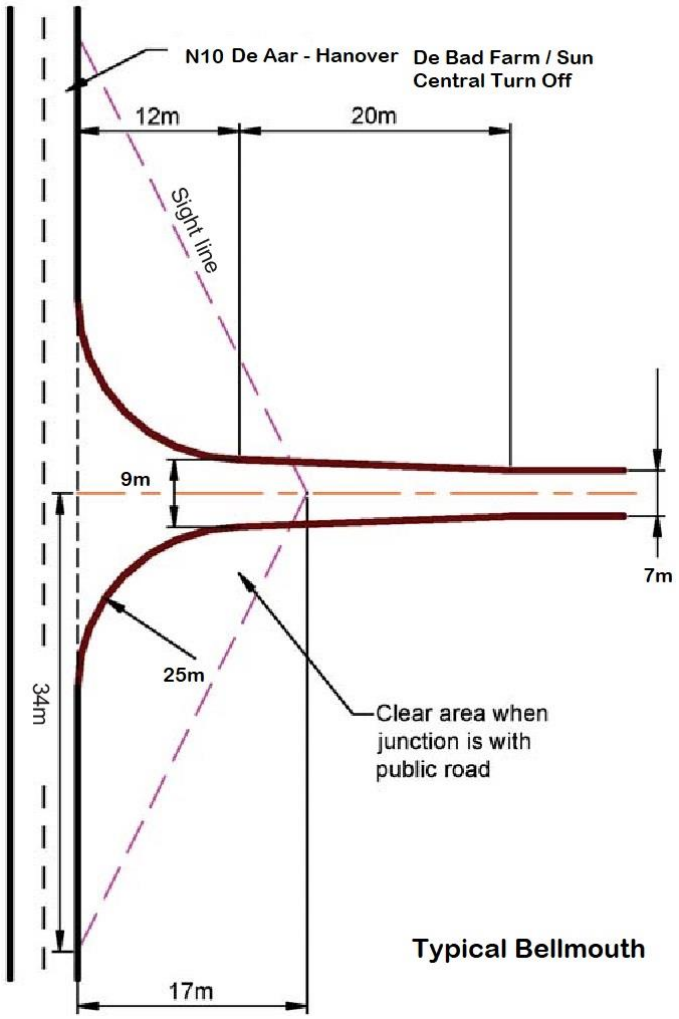

Figure 4. Specified widths (m) of the required Bellmouth Design of the N10/'Burgerville' District Road (2448).

Except for the N10/district road turn-off, the current smallest turning circle along the public road is approximately 50 m. Both bends/corners after the turn-off from the N10 are within parameter, e.g., they do not need to be widened. Besides, the standard required width of the road will stay the same in a corner, e.g., 7 m, as the 24 m turning circle just refers to the inner radius that the road takes.

The length of the gravel road will require subgrade and subbase reconstruction in all areas, where stormwater runoff needs to be improved. These are all low-lying areas where water ponding occurs and has softened the layer works to the point where deep rutting occurs due to wheel tracks from traffic on the roads. The balance of the road may only require top layer reconstruction. This however will be investigated in more detail with a Geotechnical Assessment, but it is very likely that the entire road will be reconstructed.

Although the 'Type 6 District Road Standard' for an R4 rural collector road (TRH 26 South African Road Classification and Access Management Manual) (**Figure 5**) is similar in geometry to the Eskom Standard (**Figure 6**), the more stringent ESKOM Standard shall be adopted for the reconstruction (and construction) of the proposed access road.

(i) Type 6 District Road Standard

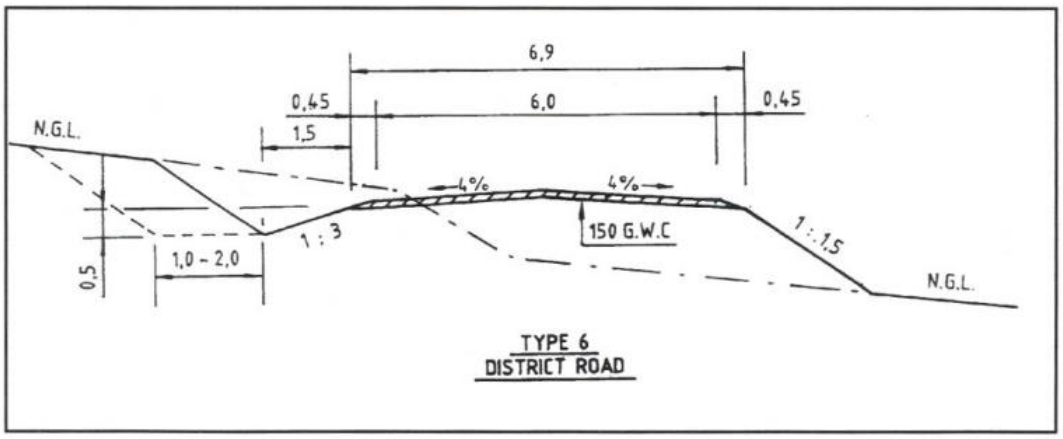

Figure 5. Typical Standard Design for an R4 rural collector road.

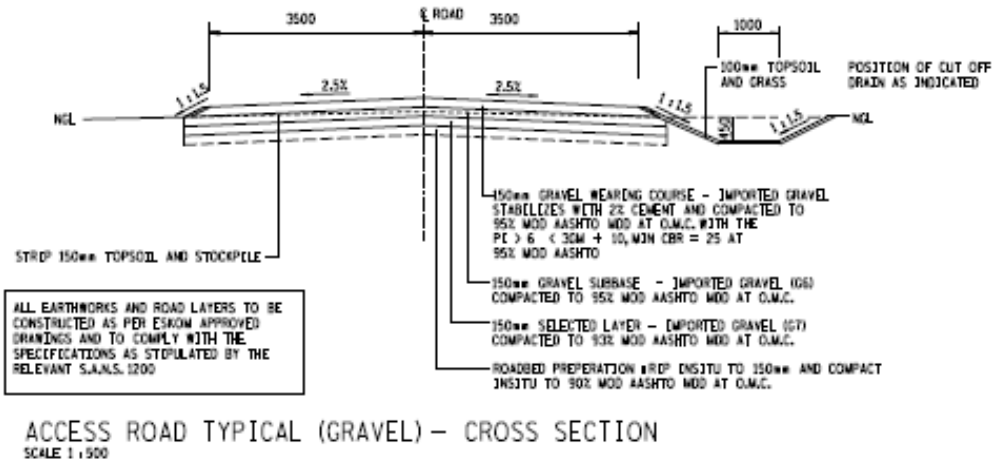

Figure 6. The minimum ESKOM Standard for access roads for extra heavy loads into ESKOM facilities (taken from ESKOM Typical Access Road Cross Section Drawing).

The maximum "box-cut" will be 300 mm with an additional 150 mm rip *in situ* and recompact (**Figure 6**). Dependent on whether a cut or fill area.

IQ/22/0349: Quick query re interpretation of road width

Dear Shaun

For the purposes of the EIA Regulation, 2014, the following applies w.r.t. a road -

For purposes of the EIA Regulations a road includes the surface of the road and its shoulders.

The following does not form part of the road and should not be considered in the determination of the relevant threshold –

- Verge,
- Cut and fill slopes,
- Drainage systems, stormwater management systems, stabilisation measures such as geofabric and hydroseeded areas, rip rap or gabions etc.

- Pavements and pedestrian walkways.

Kind regards

Chantal (Chantal Engelbrecht <CENGELBRECHT@dffe.gov.za>)

The average toe-to-toe width of the district road is 12,6 m (the average fence line width is 19 m) (**Table 1**). The road in question is a Divisional Road 2448 (DR2448). According to Roads Ordinance No. 19 of 1976, the statutory road reserve width for divisional road is 20 m (pers. comm. Rabele Matsoso, r.matsoso@vodamail.co.za). The affected district road is approximately 5.2 km long and will be rebuilt to a width of 8 m, allowing for the roadbed preparation including the surface of the road and its shoulders, and excluding up to 3 m for the side/cut-off drain.

Table 1. Approximate width(s) (m) of the Burgerville District Road (2448).

Statistic	**Top width** (Including the surface of the road)	**Toe width** (Including the surface of the road and its shoulders)	**Fence line width**
Average	7,71 m	12,59 m	19 m
Range	6,2 m to 10 m	11,2 to 13,6 m	16,6 m to 40 m

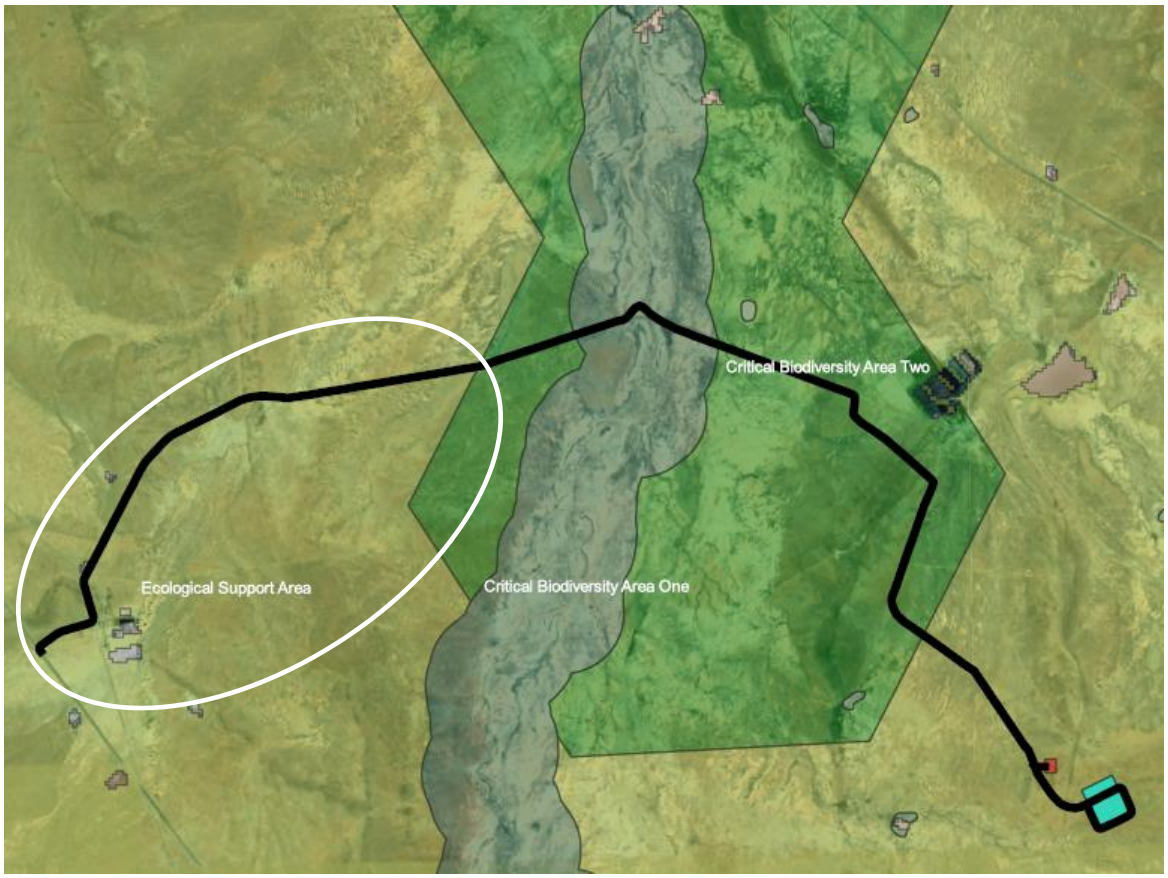

Figure 7. The section of existing public road is in an Ecological Support Area (ESA) only.

2. ***Existing private road where the District Road intersects the boundary of Farm Riet Fountain No. 39C and continues to the western boundary fence of Sun Central Cluster 1 (300 MW) Solar PV Facility***

Works to the existing private road section shall involve widening an existing ± 2,6 m-wide farm track, which commences at its intersection with the public district road on the boundary of Farm Riet Fountain No. 39C and continues approximately 6,25 km to the perimeter fence of Sun Central Cluster 1 (300 MW) Solar PV Facility (**Figure 8**). This length of farm track will be widened by approximately 5,4 m to 8 m (excluding the side/cut-off drain), but by 8,4 m to 11 m (including the side/cut-off drain) resulting in a loss of ± 5,25 ha of agricultural land. This section of road will require a full rebuild as it is highly unlikely that it will conform to ESKOM specification.

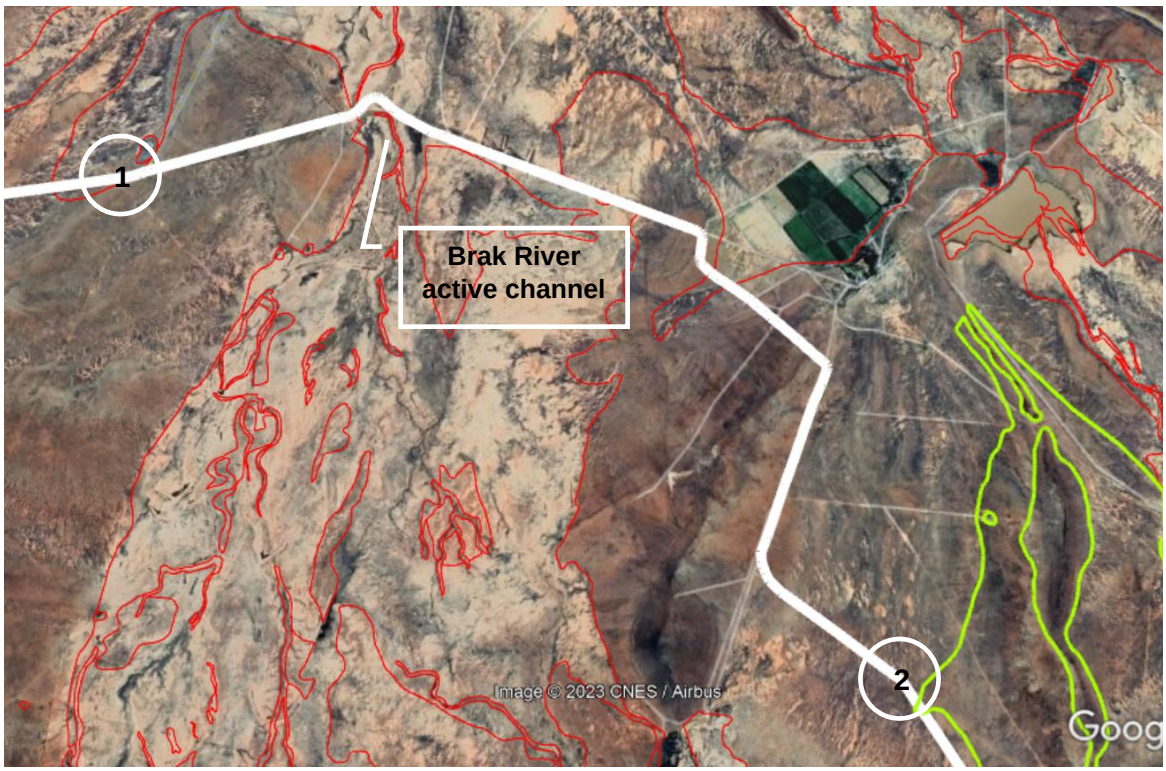

Figure 8. Section of existing private road from its intersection with the 'Burgerville' District Road (2448) at the farm boundary **(1)** to its intersection with the new road **(2)**. Red lines indicate flood plain soils, including the Brak River. Green lines indicate the solar field footprint (Cluster 1).

There are four sections where the centre line of the proposed alignment is further than 5,5 m from existing farm tracks. These four road sections are therefore assumed to constitute development of infrastructure (instead of expansion). They are approximately:

- New road section 1: ± 43 m long (start: 30° 51' 28,52'' S & 24° 17' 43,92" E, middle: 30° 51' 29,02'' S & 24° 17' 44,35" E, end: 30° 51' 29,59'' S & 24° 17' 44,44" E) (**Figure 9**),
- New road section 2: ± 32 m long (start: 30° 51' 33,34'' S & 24° 17' 43,82" E, middle: 30° 51' 33,89'' S & 24° 17' 43,90" E, end: 30° 51' 34,28'' S & 24° 17' 44,19" E) (**Figure 9**),

Figure 9. Road sections 1 and 2 where the centre line of the proposed alignment is further than 5,5 m from existing farm tracks.

- New road section 3: ± 236 m long (start: 30° 51' 35,82'' S & 24° 17' 45,88" E, middle: 30° 51' 38,23'' S & 24° 17' 49,81" E, end: 30° 51' 40,68'' S & 24° 17' 53,67" E) (**Figure 10**), and

Figure 10. Road section 3 where the centre line of the proposed alignment is further than 5,5 m from existing farm tracks.

- New road section 4: ± 1,2 km long (start: 30° 51' 56,81'' S & 24° 18' 06,53" E, middle: 30° 52' 13,67'' S & 24° 17' 58,87" E, end: 30° 52' 29,99'' S & 24° 17' 58,02" E) (**Figure 11**).

Figure 11. Road section 4 where the centre line of the proposed alignment is further than 5,5 m from existing farm tracks.

The distance to the fence line (verge) on either side of the 11 m-wide road (with side/cut-off drain) will be 4 m as the proposed Right of way servitude for the access road from where the public road ends at the boundary of Farm Riet Fountain No. 39C to the MTS will be 19 m wide.

This section of existing private road traverses several potential watercourse crossings, including the Brak River. The watercourse crossing over the Brak River is likely to be a drift with rock fill (**Figures 12 & 13**) to spread the surface water into a broadly distributed sheet whilst maintaining unrestricted subterranean flow. The drift shall be 5 m wide, 100 m long (exact length to be determined on site), and 2 – 2,55 m deep, resulting in the infilling of 1 275 m^3 of concrete or gravel wearing course (GWC) and rock fill.

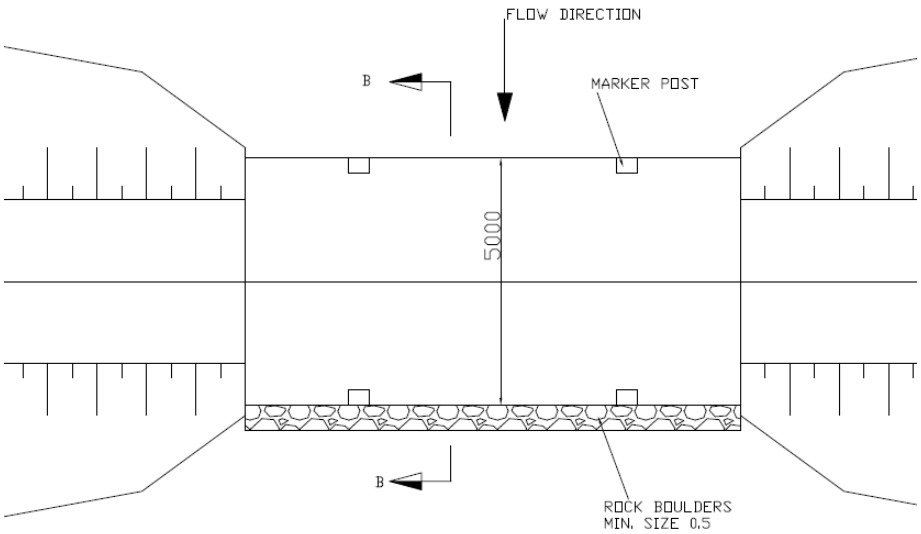

Figure 12. Aerial plan of a rock fill drift.

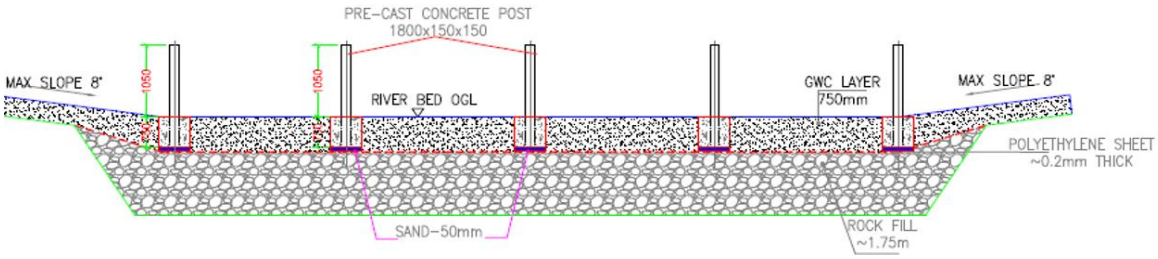

Figure 13. A typical Concrete drift section with rock fill, which permits subterranean flow.

The Brak River has been identified as having FEPA River Ecosystem Type status according to the **Freshwater Ecosystem Protected Areas (FEPA) map for the area**. *(Phase 1 Aquatic Report October 2017).* All FEPA prioritised wetlands and rivers have a minimum category of CBA 1 (Avifauna Final EIA Report prepared by Sam Laurence of Enviro-Insight cc, dated October 2022) (**Figure 14**).

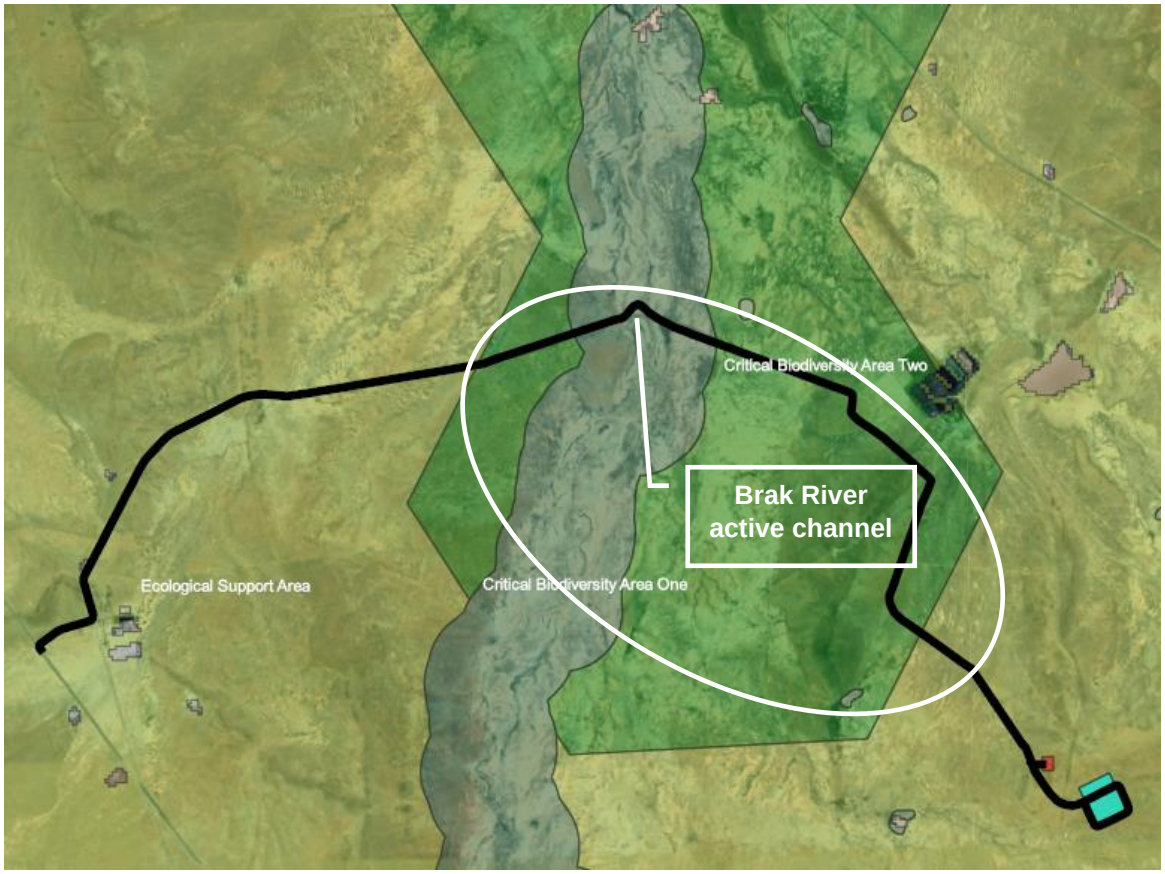

Figure 14. The section of existing private road is in Critical Biodiversity Areas (CBA1 and CBA2), and an Ecological Support Area (ESA).

3. Development of a new road to the Switching Station and Main Transmission Substation

The length and width of the new road build will be ± 2,65 km and 8 m (excluding the side/cut-off drain), but 11 m (including the side/cut-off drain) resulting in a loss of ± 2,9 ha of agricultural land.

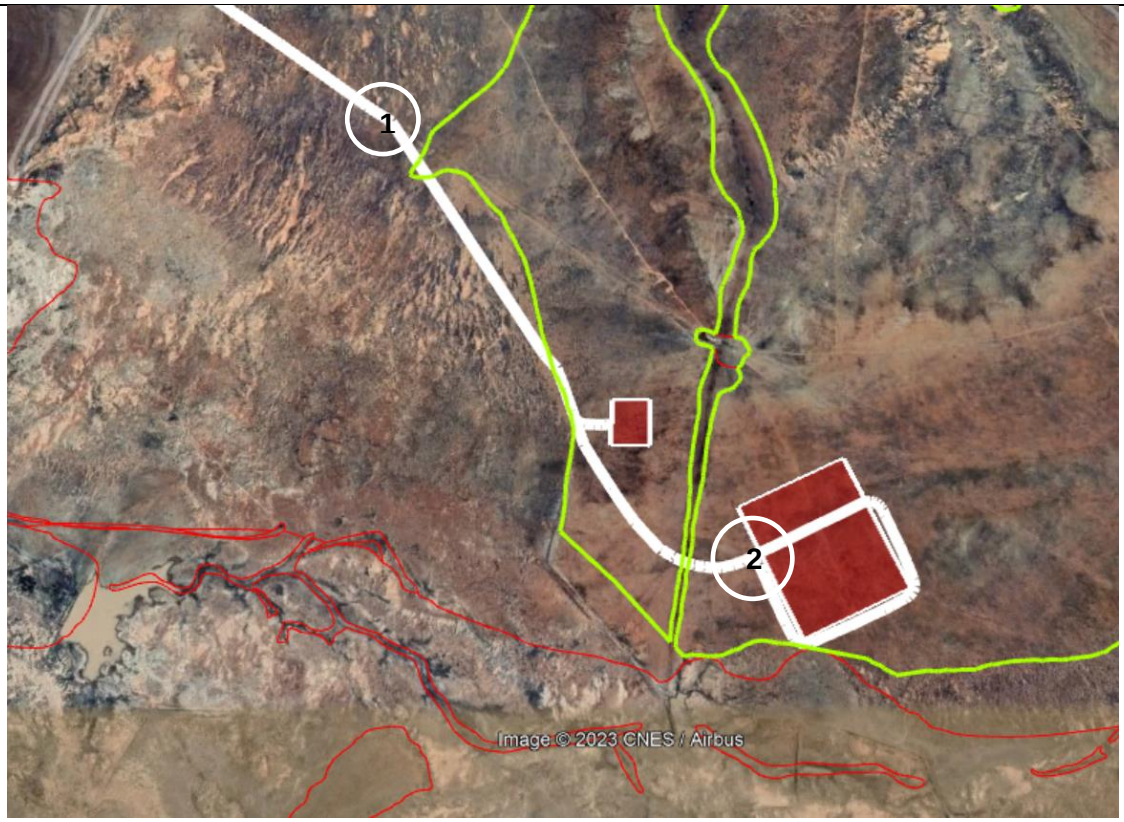

Figure 15. Section of new road from its intersection with the existing private road/farm track **(1)** to the Main Transmission Substation **(2)** inside the solar field footprint (green lines). A short access road to the Switching Station (Dx) will also be developed. Red lines indicate flood plain soils (possible watercourse).

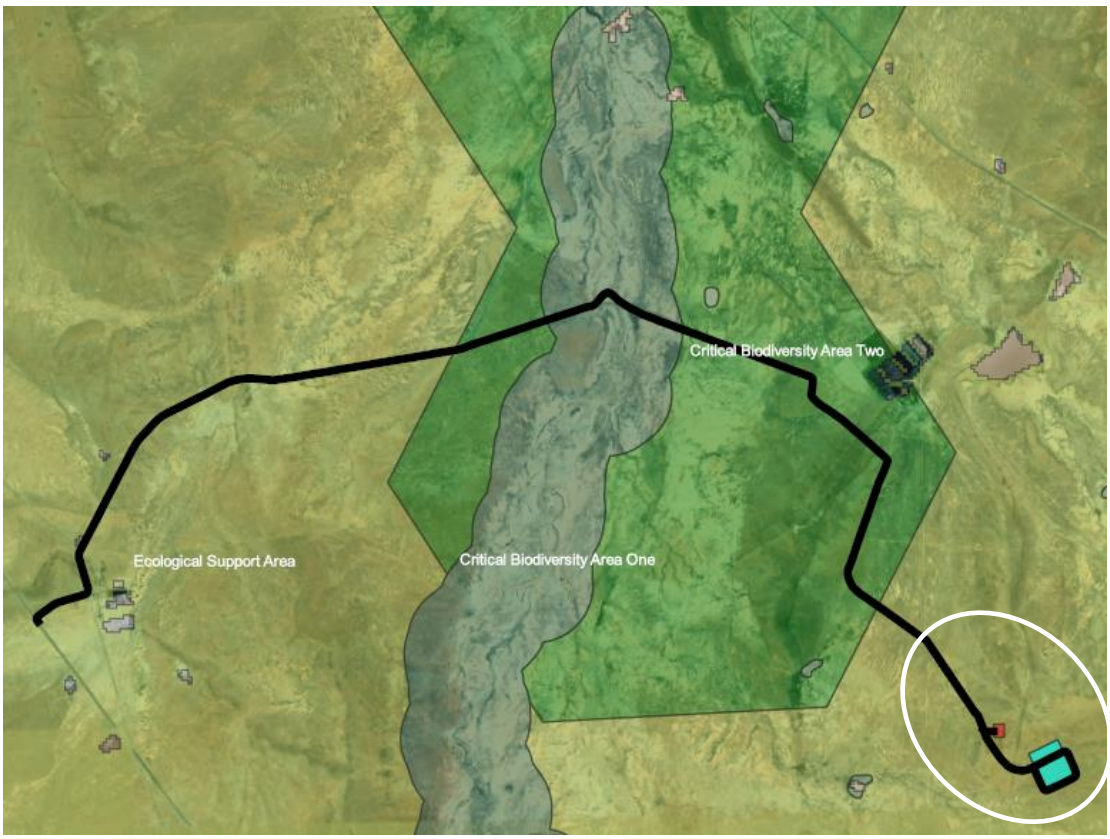

Figure 16. The section of new road is in an Ecological Support Area (ESA) only.

Working corridor & passing lanes

The contractor will need an adjacent and parallel working width of 3 m for the movement of construction vehicles and/or providing a diversion lane for the public on the district road section. All construction activities, including the diversion lane, will remain within the fenced road servitude, whereas several 30 m-long passing lanes will be strategically placed (detail to be provided as ideal positioning not identified yet) along the private and new road sections to allow for passing of farm traffic should this be required during construction. The 3 m wide passing lanes will be further than 32 m from the edge of a watercourse.

The average width of the existing district road (including the surface of the road and its shoulders) is 12,6 m, and the average fence line width is 19 m. Consequently, the average width of servitude covered by indigenous vegetation is 19 m – 12,6 m = 6,4 m or 3,2 m on either side of the road. The affected district road is approximately 5.2 km long. If a 3 m wide passing lane is constructed within the road reserve to always provide access for the public, then it would result in the temporary clearance of 15 600 m^2 or 1,56 ha.

About 6,25 km of private roads (± 2,6 m wide farm tracks) shall be widened by approximately 8,4 m to 11 m (including the side/cut-off drain) resulting in a loss of ± 5,25 ha of agricultural land, excluding additional temporary clearance for 3 m-wide and 30 m-long passing lanes if required during construction.

The length and width of the new road build will be ± 2,65 km and 11 m, respectively or ± 2,9 ha, excluding additional temporary clearance for 3 m-wide and 30 m-long passing lanes if required during construction.

Spoil

Existing excavated material is to be re-used if suitable. Spoil material will be stockpiled and used for rehabilitation where possible. If not possible, the spoil will be removed from site to a suitable and approved location by the contractor under his contract. Unsightly spoil stockpiles must not be left behind on site when construction is complete.

Aggregate

Road material or aggregate will be purchased from a licensed commercial source.

Construction camp & staging area

SAE will be working with one or more EPC contractor, so the construction camp will be shared by all construction fronts, including the MTS, Dx, Overhead powerlines, solar field and access road.

Consequently, the contractor(s) appointed to rebuild and build the access road will use the same construction camp, including laydown area, material and aggregate stockpiles, parking, offices, and ablutions, as set aside for the Sun Central Cluster 1 Solar PV facility. The ± 4 ha construction camp footprint will be in the 'open' area(s) not earmarked for the solar field, around and between the Switching Station (Dx) and Main Transmission Substation (MTS), but within the low ecologically sensitive footprint of the authorised Sun Central Cluster 1 Solar PV facility (EA reference: 14/12/16/3/3/2/998 dated 16th April 2018 as amended).

The construction camp shall include such facilities as:

- Sanitation system(s) (except for portable toilets following the work front),
- Waste storage (except for dustbins following the work front),
- Fuel storage tanks,
- Hazardous substance storage,
- Wash bay (except the wash bay for concrete slurry),
- Maintenance/service/repair bay, and

- Parking (overnight or outside business hours).

The concrete batching plant, which may or may not be in the construction camp, shall contain a washing facility for containing only the waste concrete slurry cleaned out of the discharge chute(s) and rotating mixing drums of concrete mixer trucks. This washing facility shall contain two adjacent wash bays to allow for continuous operations and minimise the risk of overflow or work stoppage when a bay has reached its capacity and must be emptied.

Accommodation will not be provided at the construction camp.

The authorised ± 1 ha staging area (EA reference: 14/12/16/3/3/2/998/AM4 dated 25th November 2022), adjoining the district road, but inside the farm boundary of Portion 1 of Farm Riet Fountain No. 39C (30°51'13,89''S & 24°15'57,88''E) may be used as an access control point as well as for parking plant, material/aggregate stockpiles and as a laydown area.

Timing and Employment

Construction must commence as soon as possible as the access road is required to deliver equipment to site for the construction of the Sun Central Cluster 1 Solar PV facility, Dx and MTS. Construction of the access road should take 6 to 8 weeks from start to finish. The construction may be split in 2 stages, initial roadworks will be sufficient for normal construction with the final layers being done in time for the MTS transformer delivery, approximately 12 months after start of project. During this period there will be approximately 45 employment opportunities (mainly unskilled and semi-skilled) (**Table 2**).

Table 2. Breakdown of estimated labour force for the rebuilding/building the access road.

Unskilled	30
Semi-skilled	10
Skilled	5
Total	45

The bulk of the earthworks for the construction of the access road will be completed in the first 2 months for sections **(2)** and **(3)** of the ± 18 month-long construction period for the generation facility and its integration into the Eskom grid as the road must be brought to specification prior to its use during the construction of the Solar PV facility.

Continued use during construction of the Solar PV facility will require a maintenance aspect and on handover the road will receive a final makeover to make it presentable as a new road. However, maintenance of access roads during construction of the Solar PV facility will fall under the scope of the authorisation for the Sun Central Cluster 1 Solar PV facility (EA reference: 14/12/16/3/3/2/998 dated 16th April 2018 as amended).

It would be safe to say that at peak construction of the Solar PV facility (after the access road is rebuilt/built to specification), the number of people on site could reach 400 with overlapping work fronts, e.g., MTS, DX, and Solar field activities. This would be a peak only, generally the peak is in earlier construction (civils) and tapers off when specialist work is required towards the latter part of the project.

Construction Equipment

It is anticipated that the construction equipment will include at least:

- Water bowsers/tankers,
- Graders,
- Tipper trucks,
- Grid-roller,

- Excavators,
- Trench digger,
- Road rollers,
- TLBs,
- Concrete mixers,
- Compaction equipment,
- Light delivery vehicles, and
- Heavy delivery vehicles.

Electricity and fuel during construction

Electricity for the construction camp will be sourced from two (2) 50 kVA (minimum) mobile generators with an integrated diesel tank (fuel capacity ± 200 litres), e.g., one can be used as backup during service periods and allow the other to rest. The integrated diesel tanks will be supplied fuel from a bunded 5 to 10 m^3 aboveground diesel tank. A filling station alongside the aboveground diesel tank and/or a mobile fuel bowser will supply plant on site for general use. The generators, aboveground fuel tank and filling station will be located at the construction camp.

Water Management

Borehole No. 13 and/or 14 (in sub-catchment HRU4) and Solar Borehole No. 5 (in sub-catchment HRU5) have been identified for water use during the construction of the access road.

Boreholes No. 13 and/or 14

Boreholes No. 13 and/or No. 14 will be used to supply water for the construction of the access road (e.g., road stabilisation and dust suppression), concrete batching, various other construction activities taking place, and may also be used to supplement potable water at the construction camp.

Given the proximity (± 60 m) of Boreholes No. 13 & 14, they probably feed off the same aquifer – called Hydrological Response Unit No. 4 (or HRU4). Consequently, the sustainable yield that was determined for BH13 should also apply to BH14. However, there is a risk that comes with their proximity - borehole interference may occur as the fractures are simultaneously dewatered, and over-production may lead to fracture failures which will lead to borehole collapse. So, although they should not be utilised at the same time, it may be prudent to authorise both in case something happens to the one e.g., borehole collapses, pump fails, etc.

Borehole No. 13 (30°51'35.47"S & 24°19'4.47"E) and Borehole No. 14 (30°51'33.81"S & 24°19'3.30"E) are located on Portion 1 of Farm Kwanselaars Hoek 40C. This property falls within quaternary catchment D62D. The General Authorisation or GA (GN 538, GG 40243, 02nd September 2016) allows for the abstraction of 2 000 m^3 per property per year of surface water (at a maximum rate of 1L/s), and 45 m^3 per hectare per year of groundwater (but no more than 40 000 m^3 of ground water may be taken per year on a property). This farm is 595,4 hectares. Consequently, the landowner is entitled to abstract no more than 26 793 m^3 of groundwater per year (or **73,4 m^3 per day**) on Portion 1 of Farm Kwanselaars Hoek 40C – under the GA.

It is possible to abstract from Boreholes No. 13 and/or 14 under the abovementioned General Authorisation as both boreholes are further than a "*100-metre radius from the delineated riparian edge of a water course …*", specifically unnamed FEPA drainage line D62D – 05610 SQ (a tributary of the Brak River) (**Figure 17**).

According to the Land-Use Decision Support Tool (LUDS) the FEPA River ecosystem type of D62D – 05610 is either an "Upper Nama Karoo_Channelled valleybottom wetland", "Upper Nama Karoo_Flat" or an "Upper Nama Upper Nama Karoo_Unchannelled valleybottom wetland". However, the field assessment revealed that

drainage line D62D – 05610 SQ is discernible only as a slightly shallow depression with no clear associated vegetation and slightly clayey soils. Dwarf karroid scrub and tufted grass are the only vegetation present in this drainage area. It is in a good condition despite some weirs and diversion walls in the catchment (Aquatic Assessment prepared by Andrew Deacon, October 2017).

Although the same GA excludes groundwater abstraction from "*within a 500-metre radius from the boundary of a wetland…*", both boreholes are in either alluvial floodplains, washes, or fans, and not a wetland (**Figure 17**). These alluvial fans are usually bare soil flats or conduits, with dwarf karroid scrub and tufted grass colonising higher lying portions of ground. These broader aquatic systems are difficult to classify, as their hydrological characteristics (the way water flows into, through and out of these features) are difficult to determine (Aquatic Assessment prepared by Andrew Deacon, October 2017). They are characterised by multiple channels that traverse a floodplain, valley floor or alluvial fan. Surface water may flow along a particular channel in one year but owing to little topographic definition or gradient across the landscape, a parallel channel may be eroded the following year, leading to a network of channels. These areas will only be briefly inundated with surface water during summer rainfall events and the surface water will be rapidly transported to the low-lying depressions and streambeds of the system (Aquatic Assessment prepared by Andrew Deacon, October 2017). These depressions create ponded flood occurrence zones, in the absence of clearly defined drainage channels or streams (Hydrological Assessment prepared by Hendrik Botha, 09 January 2023). This is due to the micro-catchment style drainage associated with the project area. Sheet flow from micro-sub catchments towards lower topographical areas or isolated depressions form temporarily flooded areas.

Figure 17. Route alignment of the underground 110 mm uPVC pressure pipe (blue line) from Boreholes No. 13 and/or 14 (BH13 & BH14) to the Overhead (OH) water storage tanks inside the Cluster 1 footprint (delineated by the green lines).

An approximately 800 m long underground 110 mm uPVC pressure pipe will be laid from BH13 (and/or BH14) to the point of abstraction alongside a farm track and inside the Cluster 1 footprint (**Figure 17**). A trench digger will provide a 300 mm wide trench to rock strata – 400 to 600 mm below ground. The length of the watercourse intersected by the trench is ± 35 m.

Two typical overhead (OH) pressed steel tanks made up of 1 m panels (circa 3 m wide x 4 m long and 3 m high), providing storage of ± 36 m^3 each, will be installed inside the Cluster 1 footprint (total storage of 72m^3). The tanks will be off the ground on column supports to allow gravity filling into water bowsers. The groundwater abstracted from BH13 (or BH14) will be treated with a deionisation (or other suitable) treatment plant if it is going to be used for domestic use and/or cleaning solar panels.

Solar Borehole No. 5

Potable water will be supplied by the contractor(s) from a commercial source and/or it will be supplied by Solar Borehole No. 5. The borehole will supply the construction camp and the O&M facility during operation of the Sun Central Cluster 1 Solar PV facility.

Solar Borehole No. 5 (30°53'3.90"S & 24°18'52.67"E) is located on Portion 4 of Farm Taaibosch Fontein 41C. This property falls within quaternary catchment D62D. The General Authorisation or GA (GN 538, GG 40243, 02nd September 2016) allows for the abstraction of 2 000 m^3 per property per year of surface water (at a maximum rate of 1L/s), and 45 m^3 per hectare per year of groundwater (but no more than 40 000 m^3 of ground water may be taken per year on a property). This farm is 1 142,5 hectares. Consequently, the landowner is entitled to abstract no more than 40 000 m^3 of groundwater per year (or **109,6** m^3 per day) on Portion 4 of Farm Taaibosch Fontein 41C – under the GA.

However, Borehole No. 5 is located within a wetland (**Figure 18**), and "*No groundwater that is taken in terms of this (general) authorisation may be taken within a 500-metre radius from the boundary of a wetland or estuary, within a 100-metre radius from the delineated riparian edge of a water course or …*"

Consequently, authorisation for the abstraction of groundwater (**S21(a)**) from Borehole No. 5 during construction (and operational phases) must be sought via an Integrated Water Use License Application.

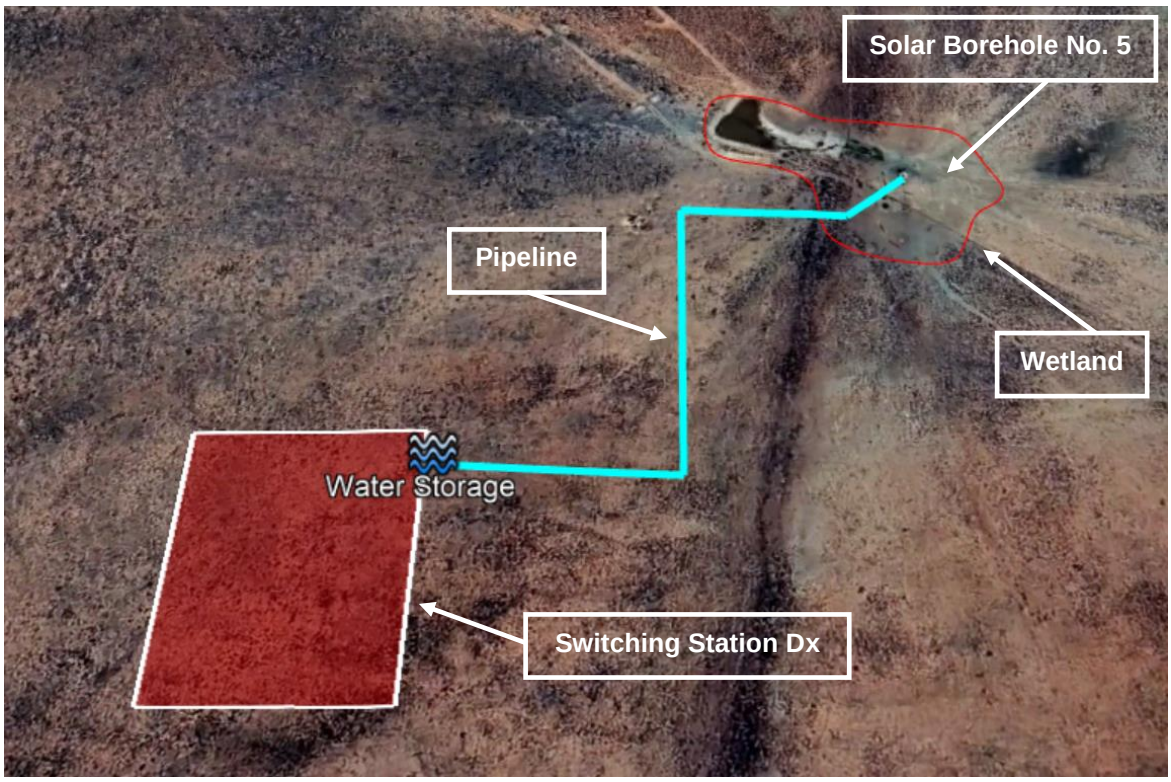

Figure 18: Route alignment of the underground 80 mm UPVC or HDPE pipe (blue line) from Solar Borehole No. 5, which is in a wetland (red line), to the water storage tank on the Switching Station Dx platform.

An approximately 400 m long underground 80 mm UPVC or HDPE pipe will be laid from BH5 to the point of abstraction on the Switching Station Dx platform inside the Cluster 1 footprint. The exact position is still to be determined A trench digger will provide a 300 mm wide trench to rock strata – 400 to 600 mm below ground. The length of the wetland intersected by the trench is ± 48 m.

Water will be stored in several 5 m^3 or 10 m^3 JOJO (or similar) tanks, as required by demand. It may be necessary to include a form of water treatment, e.g., osmosis.

Solar Borehole No. 4

Solar Borehole No. 4 may supply the O&M facility during operation of the Sun Central Cluster 1 Solar PV facility.

Solar Borehole No. 4 (30°52'17.66"S & 24°18'38.12"E) is located on Portion 1 of Kwanselaars Hoek 40C. Solar Borehole No. 4 is located within a wetland (**Figure 19**), and "*No groundwater that is taken in terms of this (general) authorisation may be taken within a 500-metre radius from the boundary of a wetland or estuary, within a 100-metre radius from the delineated riparian edge of a water course or …*"

Consequently, authorisation for the abstraction of groundwater (**S21(a)**) from Solar Borehole No. 4 during construction (and operational phases) must be sought via an Integrated Water Use License Application.

Figure 19. Location of Solar Borehole No. 4 inside an artificial wetland within the Cluster 1 footprint.

An underground 80 mm UPVC or HDPE pipe will be laid from Solar BH4 to the point of abstraction inside the Cluster 1 footprint. The exact position is still to be determined. A trench digger will provide a 300 mm wide trench to rock strata – 400 to 600 mm below ground. The length of the wetland intersected by the trench is < 50 m.

Water will be stored in several 5 m^3 or 10 m^3 JOJO (or similar) tanks, as required by demand. It may be necessary to include a form of water treatment, e.g., osmosis.

Groundwater Quality for BH No. 13 and Solar BH No. 5

According to the DWAF 1996 Target Water Quality Range (TWQR) for potable use, the groundwater from BH13 is suitable for domestic use, having a pH of 6.9. Only the EC of 75.5 mS/m and dissolved Calcium of 89 mg Ca/l exceed the DWAF TWQR (0 – 70 mS/m and 0 – 32 mg Ca/l, respectively).

Similarly, the groundwater abstracted from Solar Borehole No. 5 is suitable for domestic use with a pH of 6.7. Four water quality parameters exceeded the DWAF TWQR, specifically EC (82.7 mS/m > 70 mS/m DWAF TWQR), TDS (466 mg/l > 450 mg/l DWAF TWQR), Dissolved Ca (94 mg Ca/l > 32 mg Ca/l DWAF TWQR) and Dissolved Mg (37 mg Ca/l > 30 mg Ca/l DWAF TWQR).

The groundwater can be described as Ca-HCO3 and is typical of shallow fresh groundwater types or recently recharged groundwater. High EC indicates a high salt load (dominated by Ca, Mg, Cl, NO3 and HCO3 ions), which could result in scaling in piping exposed to heat, or in utensils used to boil water. Consequently, water softeners or deionisation plants will be required for the treatment of groundwater that will be used for domestic use or cleaning solar panels.

A deionization (or other suitable) treatment plant may therefore be included at the point of abstraction, dependent on construction needs, and the need to remove brackish solids from the groundwater if this facility is going to be used for potable water and/or washing solar panels during operation.

Estimated Yields

The sustainable yield of BH13 in sub-catchment/HRU 4 is 6.64 l/sec (for 8hrs per 24hr day of pumping only), which is equivalent to **191.23 m³/day** or 5 736.96 m³/month.

The sustainable yield of Solar Borehole No. 5 in sub-catchment/HRU 5 is 0.23 l/sec (for 8hrs per 24hr day of pumping only), which is equivalent to **6.62 m³/day** or 198.72 m³/month.

The sustainable abstraction yield from both boreholes for Cluster 1 is therefore **197 m³** (Geohydrological Assessment Report Version – Final Rev 4 prepared by GCS Water and Environmental Consultants, dated 20th December 2022, GCS Project Number: 22-0401)

BH13 is in HRU4. So, assuming there is no Base Flow and Basic Human Needs are met by Existing Groundwater Abstraction, then there is a surplus amount of 98 450.63 m³/yr (**269.73 m³/day**) available, after the allocation of the proposed PU (which is the sustainable yield of BH13; 191,23 m3/day).

Solar BH No. 5 is in HRU5. So, assuming there is no Existing Use, Basic Human Needs and Base Flow, then there is a surplus amount of 416 010.85 m³/yr (**1 139.76 m³/day**) available, after the allocation of the proposed PU (which is the sustainable yield of BH5; 6.62 m³/day).

There is therefore enough groundwater available on a sub-catchment level to sustain the proposed 8-hour abstraction from the designated boreholes and the sub-catchments they fall in.

Estimated Water Demand (during construction)

The pump test data generated from BH13 in sub-catchment/HRU 4 indicates a total abstraction of **191.23 m³/8hr day**, and the pump test data from Solar Borehole No. 5 in sub-catchment/HRU 5 indicates a total abstraction of **6.62 m³/day**.

Abstraction may not exceed the sustainable abstraction yield at the recommended pumping rate of 8 hrs per day for BH13, that is 6,64 l/s @ 8hrs (or **191.23 m³/8hr day**).

Abstraction may not exceed the sustainable abstraction yield at the recommended pumping rate of 8 hrs per day for Solar BH5, that is 0,23 l/s @ 8hrs (or **6.62 m³/8hr day**).

Consequently, cumulative water demand during construction of the access road should not exceed **197.85 m³/8hr day**, unless there is another borehole to supplement water usage for other projects (limited to the surplus groundwater reserve in the respective sub-catchments; HRU4 and HRU5) or SAE staggers other construction projects, e.g., MTS, Dx and solar field, to reduce the total water demand on BH13 and Solar BH5 at any one time.

It is estimated that approximately **211 m³/day** of groundwater will be required during construction of the access road. Water use during construction includes:

- Road Stabilisation (**118 m³/day**),
- Concrete mixing (watercourse crossings and MTS) (**25 m³/day**),
- Domestic use for workers (drinking, washing hands, and sanitation) (**2,25 m³/day**), and
- Dust suppression (spraying once per day and using a soil binding agent) (**65,8 m³/day**).

The estimated demand***** (**211 m³/day**) exceeds the available groundwater yields (**197.85 m³/8hr day**), creating a potential deficit of **13,15 m³/day**. Water saving strategies will need to be implemented on site to ensure sufficient water during the construction of the access road. For example, construction of the access road may be done in 2 stages, which will lessen the peak demand.

***** *The estimated demand was calculated for peak periods using available data and assumptions where no data was provided, such findings may change at any time should any further information be made available, or adjustments are made to suit site conditions*.

Road stabilisation

"4 725 m³ water required for full construction (spread over 40 days) = use approximately **118 m³ per day**" (pers. comm. Frank Sprung, Construction Manager, SolarAfrica Energy).

Mixing Concrete

"Watercourse crossings will be included in road construction. However, some MTS platform work may be required initially, use additional 25 m³ daily for this purpose. As explained above, there will be platform work for the MTS and DX - included in total above." (pers. comm. Frank Sprung, Construction Manager, SolarAfrica Energy)

Potable usage (construction – toilets, washing hands and drinking)

The National Norms and Standards for Domestic Water and Sanitation (Government Gazette No. 411011, 08th September 2017) refers:

- Free basic water supply is affordable ongoing services to at least the basic volume of water for indigent households, e.g., the provision of a minimum of 25 litres of potable water per person per day, or as prescribed by the Minister responsible for water supply.

However, "45 people at 70 l per day – use 3m³ daily (excludes MTS and solar field)" (pers. comm. Frank Sprung, Construction Manager, SolarAfrica Energy).

Consequently, the demand for potable water during construction (no accommodation shall be provided on site), shall be estimated using 50 l/p/day.

Assuming 45 construction staff during peak construction, and the provision of 50 litres of potable water per person per day, the estimated demand shall be 2 250 L/day or **2,25 m³/day** during peak construction.

Dust control (suppression)

The principal sources of dust have been identified as those graded/cleared roads that will be used regularly to access key areas during construction, including:

The access road from the N10 to the Main Transmission Substation is approximately **14,1 km.** However, it is assumed that dust control would only be required on two thirds of the access road at any one time during its construction.

In total, dust control will be required on an estimated 9,4 km of 7 m-wide dirt road, covering a surface area of 65 800 m².

Outdoor dust control operations in typically dry areas require "about four litres of water on every square meter, every day." Applying this formula, a road roughly 14,1 km long and 7 m wide would require the use of roughly 263 200 L or **263 m³** of water for every spraying (https://blog.midwestind.com/water-is-a-poor-dust-control-method/).

Using water as a form of dust control is an ineffective, wasteful, and short-term solution. Regular, light watering is better than infrequent, heavy watering. However, alternative dust control products or palliatives are recommended. Another effective mitigation is to reduce speed to 30 km/hr, and good road drainage (maintenance), and restricting the width of the dirt road.

Some environmentally friendly soil binders, such as Roadtech™ can reduce water use to less than 1000 ml of water per sqm. Roads with continuous daily traffic would still need to maintained daily (pers. comm. Willem Schaap, FlowCentric Mining Technology). If the same or a similar binding agent is used, then water consumption per spraying can be reduced to **65,8 m³**.

The use of on-site supplementary water sources such as grey water could reduce the Average Annual Daily Demand (AADD) requirement from the borehole water supply system (underground aquifer). The potential reduction in AADD to be supplied by the underground aquifer depends on the extent that such measures can be implemented for construction demand. Only one potential source of non-potable water that can be re-used for certain construction activities has been identified, namely wastewater generated by the washing of the concrete mixer trucks and/or in the production of concrete (**Table 3**).

Table 3: Breakdown of assumed construction water use and the potential for supplementary water use.

Construction			
Type of usage	**Activity**	**Supplementary water use**	
		Potential Saving	**Source**
Non-potable usage	Road stabilisation (compaction)	✗	Domestic wastewater will either be pumped from a conservancy tank or disposed of on-site via a septic tank-soakaway system.

	Dust control/suppression (regular and extensive)	✗	Domestic wastewater will either be pumped from a conservancy tank or disposed of on-site via a septic tank-soakaway system.
	Mixing concrete	✓ **Unknown**	*Wastewater generated by the washing of the concrete mixer trucks and/or in the production of concrete.
	Toilet flushing	✗	Domestic wastewater will either be pumped from a conservancy tank or disposed of on-site via a septic tank-soakaway system.
Potable usage	Taps/basins • Hand washing • Drinking • Preparing food • Washing dishes	✗	

The Sewerage flow contribution as a percentage of Average Annual Daily Demand (AADD) for business, commercial, industrial land use categories is 80% (DHS Redbook, Section K, Table K.4).

DHS Redbook, Section K, Sanitation, The Neighbourhood Planning and Design Guide, Part II, Planning and design guidelines, developed by Department of Human Settlements, published by the South African Government ISBN: 978-0-6399283-2-6, version 1.1, printed January 2019.

The water saving from reusing residual water in the Ready Mix Concrete (RMC) or other concrete waste is not known but will be encouraged none the less.

*Botton, Julia & Lucas, Lindomar & Gheller, Rafael & Mello, Josiane & Dalconton, Francieli & Onofre, Sideney. (2018). Reuse of the Concrete Mixer Truck Wash Water in the Production of Concrete - A Clean Production Proposal. International Journal of Advanced Engineering Research and Science. 5. 4-10. 10.22161/ijaers.5.3.2

Abstract

Concrete is a material used on a large scale in civil construction. In concrete plants, it is manufactured by concrete mixer trucks and this process consumes a large quantity of drinking water. In addition to the production of concrete, the water used to wash the concrete mixer trucks should also be considered, since this also generates a considerable amount of residual water that cannot be disposed of without prior treatment. As such, the objective of this study is to **reuse the wastewater generated by the washing of the mixer trucks in the production of concrete, thus avoiding the consumption of drinking water, considering that the reuse of this wastewater doesn't require chemical treatment**. Three compositions were developed: A reference composition produced with drinking water; a composition with 50% drinking water and 50% residual water; and a composition with 100% of residual water. To analyse the concrete, its

properties were checked in the fresh and the hardened state, assessing the workability through the slump test and its compressive strength at 14 days and 28 days. In total, 9 test specimens were moulded in accordance with age, which meant 3 specimens per composition. The results showed that the concrete produced with the residual water presented the same compression strength as the concrete that used drinking water. It is estimated that a replacement of up to 50% should be used, since the composition containing 50% of residual water showed the greatest gains in strength in relation to the other compositions.

Mitigation: Any residual water in the Ready Mix Concrete (RMC) or other concrete waste can be re-used by replacing domestic water for making new mortar or concrete. It is estimated that a replacement of up to 50% should be used to achieve the greatest gains in strength in relation to either 100% domestic water or 100% residual water.

Water demand or usage can be reduced by implementing the following mitigations:

- Alternative dust control products such as environmentally friendly soil binders must be used.
- Any residual water in the Ready Mix Concrete (RMC) or other concrete waste should be re-used by replacing domestic water for making new mortar or concrete. It is estimated that a replacement of up to 50% should be used to achieve the greatest gains in strength in relation to either 100% domestic water or 100% residual water.

Water Storage

Groundwater during construction

Water from Boreholes No. 13 and/or No. 14 will be stored in two ± **36 m³** overhead (OH) pressed steel tank.

Water from Solar Boreholes No. 5 and 4 will be stored in one **5 m³** or **10 m³** JOJO (or similar) tank, but the number of tanks for each borehole may be increased by an additional 2 tanks (up to 3 tanks in total) to cater for water from Boreholes No. 13 or 14.

One additional tank (up to **10 m³**) will be installed at the construction camp to supply domestic water to the offices and staff.

Untreated Effluent (concrete slurry from e.g., concrete mixer trucks) during construction

The concrete batching plant, which may or may not be in the construction camp, shall contain a washing facility for containing only the waste concrete slurry cleaned out of the discharge chute(s) and rotating mixing drums of concrete mixer trucks. This washing facility shall contain two adjacent wash bays to allow for continuous operations and minimise the risk of overflow or work stoppage when a bay has reached its capacity and must be emptied. The volume (**m³**) of the wash bays that will be used to store concrete slurry for reuse or disposal is not known at this stage.

Contaminated Soil

Storing contaminated soil for reuse (bioremediation and rehabilitation) and/or disposal: a **10 m³** container will be made available for the storage and bioremediation of soil contaminated with hydrocarbon spills or storage and collection for disposal at a licensed hazardous waste landfill site.

Waste Management

Domestic Wastewater (wastewater arising from domestic and commercial activities and premises and may contain sewage)

Assuming the estimated demand for potable water is **2,25 m³/day** during construction (45 staff and the provision of 50 litres of potable water per person per day) and the sewerage flow contribution as a percentage of Average Annual Daily Demand (AADD) for business, commercial, industrial land use categories is 80% (DHS Redbook, Section K, Table K.4), then **± 1,8 m³** of "domestic wastewater" shall be generated each day.

DHS Redbook, Section K, Sanitation, The Neighbourhood Planning and Design Guide, Part II, Planning and design guidelines, developed by Department of Human Settlements, published by the South African Government ISBN: 978-0-6399283-2-6, version 1.1, printed January 2019.

During peak construction of Cluster 1, the labour force should reach 400 employees, thereby generating **16 m³** of "domestic wastewater" each day. However, the access road project will be completed within 6 to 8 weeks and will therefore not contribute towards (cumulative) wastewater generation during peak construction.

"**on-site disposal**" refers to the disposal of wastewater on individual properties not permanently linked to a central waste collection, treatment, and disposal systems, such as septic tank systems, conservancy tank systems, soakaway systems, french drains, pit latrines, some package plants and related activities (GA for Section 21(g), 2013).

The sanitation system adopted by the contractor(s) at the construction camp will be a containerised system whereby domestic wastewater will be stored in a conservancy tank(s) for safe disposal elsewhere and/or a package plant for the on-site disposal, using a septic tank-soakaway system.

Storage for disposal elsewhere (using a conservancy tank system)

In terms of section 3.8 of the GA for Section 21(g) (2013), a person who lawfully occupies property registered in the Deeds Office or lawfully has access to land on which the use of water takes place, may store up to **10 000 m³** of domestic wastewater per property for the purpose of disposal if the storing of the wastewater does not impact on a water resource or on any other person's water use, property or land, and is not detrimental to the health and safety of the public in the vicinity of the activity.

A person who stores wastewater in terms of the GA for Section 21(g) (2013) must submit a registration form for registration of the water use before commencement of storage if **more than 1 000 m³** are stored for disposal. Given the unlikelihood of all contractors (combined) storing more than 1 000 m³ of domestic wastewater at the construction camp for disposal, this water use will not need to be registered, but is subject to the limits and conditions contained therein.

Risk:

Given the large volumes for storage above, DWS may interpret “storage” as wastewater storage dams, and not a conservancy tank system, particularly since a conservancy tank system is included in the definition of “on-site disposal.”

In other words, the storage of domestic wastewater using conservancy tanks for the purpose of disposal may not be permissible under the abovementioned section (3.8) of the General Authorisation, requiring an application for a Water Use License.

On-site Disposal (to a conservancy tank or septic tank-soakaway system)

Alternatively, section 3.9 of the same GA for Section 21(g) (2013), allows a person who lawfully occupies property registered in the Deeds Office or lawfully has access to land on which the use of water takes place, to dispose of domestic wastewater to a communal conservancy tank serving no more than 50 households or domestic wastewater generated by a single household not permanently linked to a central waste collection, treatment and disposal system to an on-site disposal facility.

A person who disposes of wastewater in terms of the GA for Section 21(g) (2013) must submit a registration form for registration of the water use before the commencement of the disposal if more than 50 m^3 of domestic wastewater is disposed of on any given day. Given the unlikelihood of all contractors (combined) disposing more than 50 m^3 of domestic wastewater on any given day at the construction camp, this water use will not need to be registered.

Risk:

DWS may interpret a conservancy tank system and a septic tank-soakaway system as on-site disposal, considering both systems are included in the definition of "on-site disposal."

However, section 3.9 of the GA for Section 21(g) (2013) refers to a communal conservancy tank serving no more than **50 households** and domestic wastewater generated by **a single household**. Consequently, DWS may not consider domestic wastewater generated by 45 labourers for the road contractor (**± 1,8 m^3**), or by 400 labourers for all contractors combined during peak construction (**± 16 m^3**), permissible under the abovementioned section (3.9) of the General Authorisation, requiring an application for a Water Use License.

The sanitation system will be supplemented by portable chemical toilets or e-loos for use by the work front further away from the construction camp. Wastewater shall be collected by a supplier for disposal at a licensed private or municipal Wastewater Treatment Works (WWTW).

Waste

It is anticipated that both general and hazardous waste types will be generated during construction (**Table 4**). Except for domestic wastewater (**1,8 m^3/day**), volumes cannot be known. The principal sanitation system during construction shall either be containerised toilets connected to a conservancy tank and/or a sewerage treatment package plant, as well as chemical toilets.

Table 4. Identification of construction waste types and proposed management methods.

Source	Waste type	Proposed Control Method(s)
Concrete mixing	Rubble (Inert)	Solid concrete rubble will be re-used as fill material and/or disposed at the De Aar licensed landfill site, unless capacity constraints necessitate the use of an alternative licensed landfill site(s).
	wet Slurry (Hazardous) dry Slurry (General waste)	Slurry from the concrete mixing will be recycled in concrete production or once hardened, reused as fill material and/or disposed at the De Aar licensed landfill site, unless capacity constraints necessitate the use of an alternative licensed landfill site(s).
	Residual wastewater (Hazardous)	Reuse residual wastewater by replacing borehole water for making new mortar or concrete, and/or allowed to evaporate.
Construction plant	Used motor oil (Hazardous)	Collected by a registered collector or mechanic (during emergency repairs) for recycling.
	Contaminated soil (Hazardous)	Bioremediation and/or collected for disposal at a licensed hazardous waste landfill site.

Containerised toilet blocks, staff welfare area/ kitchens connected to a wastewater treatment package plant (septic tank-soakaway system)	Domestic wastewater	Domestic wastewater will be disposed of via a sub-surface soakaway.
	Sludge	The sludge from septic tanks will be disposed of in accordance with the "Guidelines for the Utilisation and Disposal of Wastewater Sludge: Volume 3: Requirements for the on-site and off-site disposal of sludge."
Conservancy tank systems and Chemical toilets	Domestic wastewater	Collected by supplier for disposal at a licensed private or municipal Wastewater Treatment Works (WWTW).
Office	Paper (General waste)	Collected for recycling.
	Stationary (General waste)	Separated for re-use and/or recycling, and/or collected for disposal at the De Aar licensed landfill site, unless capacity constraints necessitate the use of an alternative licensed landfill site(s).
	Ink cartridges (Hazardous)	Transferred to or collected by supplier for recycling.
Staff Welfare area	Organic (food) waste (General waste)	Collected for disposal at the De Aar licensed landfill site, unless capacity constraints necessitate the use of an alternative licensed landfill site(s).
	Food/drink packaging (General waste)	Separated for re-use and/or recycling, and/or collected for disposal at the De Aar licensed landfill site, unless capacity constraints necessitate the use of an alternative licensed landfill site(s).
Packaging	Cardboard, plastic, wood, cement bags (Inert)	Collected for re-use and/or recycling.
Unsuitable road material or aggregate	Spoil (inert)	Reused as fill material, during rehabilitation of the site and/or removed from site to a suitable and approved location by the contractor under his contract.

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

Listed activity as described in GN 734, 735 and 736	Description of project activity
Example: ***GN 734 Item xx xx): The construction of a bridge where such construction occurs within a watercourse or within 32 metres of a watercourse, measured from the edge of a watercourse, excluding where such construction***	***A bridge measuring 5 m in height and 10m in length, no wider than 8 meters will be built over the Orange river***

<table>
<tr><td>will occur behind the development setback line.</td><td></td></tr>
<tr><td>GN R 327 Item 12 (ii) (a) and (c): The development of—

(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;</td><td>This listed activity relates to the development of crossing/drainage structures (items 1 to 4) and infrastructure (items 5 to 8).

1. The Brak River Drainage System: 30°51'6.74"S 24°16'32.57"E and 30°51'9.48"S 24°16'48.11"E

The crossing over the Brak River is likely to be a Drift with rock fill to spread the surface water into a broadly distributed sheet whilst maintaining unrestricted subterranean flow. The Drift shall be 5 m wide, 100 m long (final length to be determined on site), so the physical footprint will be circa 500 m².

<table>
<tr><td>Start:</td><td>30°51'6.74"S 24°16'32.57"E (macro-channel bank)</td></tr>
<tr><td>Middle:</td><td>30°51'4.71"S; 24°16'39.98"E</td></tr>
<tr><td>End:</td><td>30°51'9.48"S 24°16'48.11"E (macro-channel bank)</td></tr>
<tr><td>Distance (m)</td><td>± 531 m (between banks)
± 100 m long (length of Drift)</td></tr>
<tr><td>Width (m)</td><td>The drift shall be 5 m wide</td></tr>
<tr><td>Area (m²) of Drift</td><td>± 500 m²</td></tr>
</table>

2. Section 2.3 (Small Ephemeral Tributary): 30°51'15.66"S 24°17'4.51"E

Road Section 2.3 crosses a small ephemeral drainage line that originates on the Brak River floodplain. There is a small dam in the upstream drainage. The engineers must decide on the nature of the drainage design (e.g., using riprap, gabion mattresses, and/or other permeable material) that is needed to prevent the elevated road from (a) obstructing surface and sub-surface flow through the system, and (b) prevent pooling on the upstream edge of the road.

<table>
<tr><td>Start:</td><td>30°51'14.77"S; 24°17'3.84"E</td></tr>
<tr><td>Middle:</td><td>30°51'15.15"S; 24°17'4.87"E</td></tr>
<tr><td>End:</td><td>30°51'15.47"S; 24°17'5.83"E</td></tr>
<tr><td>Distance (m)</td><td>± 57 m</td></tr>
<tr><td>Width (m)</td><td>8 m road plus 3 m drain</td></tr>
<tr><td>Area (m²)</td><td>± 77 m²</td></tr>
</table>
</td></tr>
</table>

3. **Section 2.5 (Headwater Drainage):** 30°51'38.05"S 24°17'49.25"E

   At Road Section 2.5, the road crosses a 70 m-wide floodplain area, which is draining an area containing headwater drainage with floodplain flats, into an area with alluvial fans. The engineers must decide on the nature of the drainage design (e.g., using riprap, gabion mattresses, and/or other permeable material) that is needed to prevent the elevated road from (a) obstructing surface and sub-surface flow through the system, and (b) prevent pooling on the upstream edge of the road.

Start:	30°51'37.00"S; 24°17'47.74"E
Middle:	30°51'37.64"S; 24°17'48.83"E
End:	30°51'38.29"S; 24°17'49.93"E
Distance (m)	± 70 m
Width (m)	8 m road plus 3 m drain
Area (m^2)	± 770 m^2

4. **Earth Dam (Farm track):** 30°51'57.84"S; 24°18'6.75"E

   A 117 m section of the farm track occurs within 32 m of an earth dam. A Drift with rock fill or similar design structure may need to be adopted to protect the access road from seepage and/or overflow from the earth dam.

Start:	30°51'55.87"S; 24°18'7.02"E
Middle:	30°51'57.81"S; 24°18'6.40"E
End:	30°51'59.30"S; 24°18'5.17"E
Distance (m)	± 117 m
Width (m)	A Drift shall be ±5 m wide
Area (m^2)	**± 585 m^2**

5. An approximately 800 m long underground 110 mm uPVC pressure pipe will be laid from Borehole No. 13 and/or 14 to the point of abstraction alongside a farm track and inside the Cluster 1 footprint. The length (35 m) and width (0,3 m) of the trench within the watercourse (unnamed FEPA drainage line D62D – 05610 SQ) will cover a surface area of **10.5 m^2**.

Start:	30°51'36.40"S; 24°18'55.92"E
Middle:	30°51'36.60"S; 24°18'55.29"E
End:	30°51'36.79"S; 24°18'54.65"E
Distance (m)	± 35 m

Width (m)	300 mm wide trench
Area (m^2)	**± 10.5 m^2**

6. An approximately 400 m long underground 80 mm UPVC or HDPE pipe will be laid from Solar BH5 to the point of abstraction on the Switching Station Dx platform inside the Cluster 1 footprint. The exact position is still to be determined. A trench digger will provide a 300 mm wide trench to rock strata – 400 to 600 mm below ground. The length of the wetland intersected by the trench is ± 48 m, making the physical footprint **14.4 m^2**.

Start:	30°53'3.90"S & 24°18'52.67"E
Middle:	30°53'4.41"S; 24°18'52.00"E
End:	30°53'4.65"S; 24°18'51.19"E
Distance (m)	± 48 m
Width (m)	300 mm wide trench
Area (m^2)	**14.4 m^2**

7. An underground 80 mm UPVC or HDPE pipe will be laid from Solar BH4 to the point of abstraction inside the Cluster 1 footprint. The exact position is still to be determined. A trench digger will provide a 300 mm wide trench to rock strata – 400 to 600 mm below ground. The length of the wetland intersected by the trench is ± 50 m, making the physical footprint **15 m^2**.

Solar BH4	30°52'17.66"S & 24°18'38.12"E
Distance (m)	± 50 m
Width (m)	300 mm wide trench
Area (m^2)	**15 m^2**

8. There are four sections where the centre line of the proposed alignment is further than 5,5 m from existing farm tracks, and therefore assumed to constitute development of infrastructure (instead of expansion):

New road section 3 is ± 236 m long (start: 30° 51' 35,82'' S & 24° 17' 45,88" E, middle: 30° 51' 38,23'' S & 24° 17' 49,81" E, end: 30° 51' 40,68'' S & 24° 17' 53,67" E), but it crosses **Section 2.5 (Headwater Drainage):** 30°51'38.05"S 24°17'49.25"E. At Road Section 2.5, the road crosses a 70 m-wide floodplain area, which is draining an area containing headwater drainage with floodplain flats, into an area with alluvial fans.

Start:	30°51'37.00"S; 24°17'47.74"E

	Middle: 30°51'37.64"S; 24°17'48.83"E End: 30°51'38.29"S; 24°17'49.93"E Distance (m): ± 70 m Width (m): 8 m road plus 3 m drain Area (m^2): **± 770 m^2** New road section 4 is ± 1,2 km long (start: 30° 51' 56,81'' S & 24° 18' 06,53" E, middle: 30° 52' 13,67'' S & 24° 17' 58,87" E, end: 30° 52' 29,99'' S & 24° 17' 58,02" E), but 85 m of the 11 m wide new road section 4 (**935 m^2**) occurs within 32 m of an earth dam. Start: 30°51'56.81''S; 24°18'06.53"E Middle: 30°51'58.06"S; 24°18'5.89"E End: 30°51'59.30"S; 24°18'5.17"E Distance (m): ± 85 m Width (m): 8 m road plus 3 m drain Area (m^2): **± 935 m^2**
GN R 327 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;	Sections of existing road occurring within watercourses will be reconstructed. The affected district road will be rebuilt to a width of 11 m (allowing 8 m for the roadbed preparation, and up to 3 m for the side/cut-off drain). The maximum "box-cut" will be 300 mm with an additional 150 mm rip in situ and recompact (dependent on whether a cut or fill area). Consequently, **every 1 m length of road occurring within a watercourse will result in the moving of 4,95 m^3 of soil** (11 m x 0,45 m x 1 m). 1. **Section 1.2 (Small Ephemeral Tributary):** 30 51 59.1 S; 24 13 49.7 (Alt. 1311 m) A small ephemeral drainage line reaches the road, flows along the left shoulder of the road up to the coordinates above, where it crosses the road. Start: 30°52'3.61"S; 24°13'46.94"E Middle: 30°52'1.25"S; 24°13'48.43"E End: 30 51 59.1 S; 24 13 49.7 Distance (m): ± 162 m Width (m): 8 m road plus 3 m drain Volume (m^3): **± 802 m^3**

2. **Section 1.3 (Large Ephemeral Tributary):** 30 51 42.6 S; 24 14 00.5 E (Alt. 1315 m)

   Where the large ephemeral tributary reaches the road, it is dammed by the presence of the road and start draining down the left shoulder of the road. The floodwater then crosses the road to enter the downstream drainage and later joins the original drainage line. The area along the road is scoured due to periodic flows, and where the flows cross the road to the downstream catchment, flow damage to the road is evident.

Start:	30°51'46.87"S; 24°13'57.58"E
Middle:	30°51'45.51"S; 24°13'58.46"E
End:	30°51'44.14"S; 24°13'59.35"E
Distance (m)	± 96 m
Width (m)	8 m road plus 3 m drain
Volume (m^3)	± 475 m^3

3. **Section 1.4 (Headwater Drainage Line):** 30 51 29.3 S; 24 14 23.7 E (Alt. 1314 m)

   Road Section 1.4 indicates the section of the road where the road cross over a headwater drainage area. The road obstructs seepage from the small headwater drainage catchment and sedges appear in the wetter clay soil next to the road. It seems that drainage water does not flow over the road (no damage or pooling on the road). Downstream of the road the drainage area is covered with shrub growth.

Start:	30°51'30.15"S; 24°14'21.38"E
Middle:	30°51'29.16"S; 24°14'23.82"E
End:	30°51'28.16"S; 24°14'26.20"E
Distance (m)	± 142 m
Width (m)	8 m road plus 3 m drain
Volume (m^3)	**± 703 m^3**

4. **Section 1.5 (Large Ephemeral Tributary):** 30 51 25.7 S; 24 14 12.3 E and 30 51 25.8 S; 24 14 47.1 E (Altitude 1309 m)

   Road Section 1.5 indicates the section of the road where the road cross over two drainage lines: a) the start of a short tributary of the main local drainage line and b) a large ephemeral drainage line crosses the road through a culvert bridge.

Start:	30°51'25.28"S; 24°14'40.02"E

Middle:	30°51'25.28"S; 24°14'40.09"E
End:	30°51'25.28"S; 24°14'40.18"E
Distance (m)	± 4 m
Width (m)	8 m road plus 3 m drain
Volume (m^3)	**± 20 m^3**

Start:	30°51'25.67"S; 24°14'45.41"E
Middle:	30°51'25.70"S; 24°14'46.55"E
End:	30°51'25.60"S; 24°14'47.61"E
Distance (m)	± 59 m
Width (m)	8 m road plus 3 m drain
Volume (m^3)	**± 292 m^3**

Apart from the access road crossing through the abovementioned large ephemeral drainage line, there is also an existing pipe culvert (9 m wide shoulder width) on the public district road section, which will be kept in place or reconstructed to a similar or better design, but within the same footprint. Assuming a length of at least 4 m and a depth of at least 1 m, then reconstruction of this culvert will result in moving **36 m^3** of soil (9 m x 1 m x 4 m).

Sections of existing private road (farm tracks) occurring within watercourses will be reconstructed. The existing ± 2,6 m wide farm tracks will be widened to 11 m (allowing 8 m for the roadbed preparation, and up to 3 m for the side/cut-off drain). The maximum "box-cut" will be 300 mm with an additional 150 mm rip in situ and recompact (dependent on whether a cut or fill area). Consequently, **every 1 m length of road occurring within a watercourse will result in the moving of 4,95 m^3 of soil** (11 m x 0,45 m x 1 m).

5. **The Brak River Drainage System:** 30°51'6.74"S 24°16'32.57"E and 30°51'9.48"S 24°16'48.11"E

   The crossing over the Brak River is likely to be a Drift with rock fill to spread the surface water into a broadly distributed sheet whilst maintaining unrestricted subterranean flow. The Drift shall be 5 m wide, 100 m long (final length to be determined on site) and 2 – 2,55 m deep, resulting in the infilling of **1 275 m^3** of concrete or gravel wearing course (GWC) and rock fill. Similar design structures may need to be adopted as required, still to be identified, e.g., if there are watershed areas that may need protection.

Start:	30°51'6.74"S 24°16'32.57"E (macro-channel bank)
Middle:	30°51'4.71"S; 24°16'39.98"E
End:	30°51'9.48"S 24°16'48.11"E (macro-channel bank)
Distance (m)	± 531 m (between banks) ± 100 m long (length of Drift)
Width (m) Depth (m)	The drift shall be 5 m wide The drift shall be 2,55 m deep
Volume (m^3) of Drift Volume(m^3) of Road	**± 1 275 m^3** **± 2 628.45 m^3**

6. **Section 2.3 (Small Ephemeral Tributary):** 30°51'15.66"S 24°17'4.51"E

   Road Section 2.3 crosses a small ephemeral drainage line that originates on the Brak River floodplain. There is a small dam in the upstream drainage and after it crosses the road, a series of short berms which manipulate the flows, probably to protect the road and distribute the water into the floodplain.

Start:	30°51'14.77"S; 24°17'3.84"E
Middle:	30°51'15.15"S; 24°17'4.87"E
End:	30°51'15.47"S; 24°17'5.83"E
Distance (m)	± 57 m
Width (m)	8 m road plus 3 m drain
Volume (m^3)	**± 282 m^3**

7. **Wetland:** 30°51'22.09"; 24°17'24.76"E

   The access road runs along the edge of a wetland.

Start:	30°51'21.63"S; 24°17'23.28"E
Middle:	30°51'22.09"; 24°17'24.76"E
End:	30°51'22.60"S; 24°17'26.18"E
Distance (m)	± 83 m
Width (m)	8 m road plus 3 m drain
Volume (m^3)	**± 411 m^3**

8. **Section 2.5 (Headwater Drainage):** 30°51'38.05"S; 24°17'49.25"E

At Road Section 2.5, the road crosses a floodplain area, 70 m wide, which is draining an area containing headwater drainage with floodplain flats, into an area with alluvial fans.

Start:	30°51'37.00"S; 24°17'47.74"E
Middle:	30°51'37.64"S; 24°17'48.83"E
End:	30°51'38.29"S; 24°17'49.93"E
Distance (m)	± 70 m
Width (m)	8 m road plus 3 m drain
Volume (m^3)	**± 346.5 m^3**

9. An approximately 800 m long underground 110 mm uPVC pressure pipe will be laid from Borehole No. 13 and/or 14 to the point of abstraction alongside a farm track and inside the Cluster 1 footprint. The length (35 m), width (0,3 m) and depth (0,6 m) of the trench within the watercourse (unnamed FEPA drainage line D62D – 05610 SQ) will result in the moving of **6.3 m^3** of soil.

Start:	30°51'36.40"S; 24°18'55.92"E
Middle:	30°51'36.60"S; 24°18'55.29"E
End:	30°51'36.79"S; 24°18'54.65"E
Distance (m)	± 35 m
Width (m) Depth (m)	300 mm wide trench 0.6 m
Volume (m^3)	**± 6.3 m^3**

10. An approximately 400 m long underground 80 mm UPVC or HDPE pipe will be laid from BH5 to the point of abstraction on the Switching Station Dx platform inside the Cluster 1 footprint. The exact position is still to be determined A trench digger will provide a 300 mm wide trench to rock strata – 400 to 600 mm below ground. The length (48 m), width (0,3 m) and depth (0,6 m) of the trench within the wetland will result in the moving of **8,64 m^3** of soil.

Start:	30°53'3.90"S & 24°18'52.67"E
Middle:	30°53'4.41"S; 24°18'52.00"E
End:	30°53'4.65"S; 24°18'51.19"E
Distance (m)	± 48 m
Width (m) Depth (m)	300 mm wide trench 0.6 m

	<table><tr><td>Volume (m^3)</td><td>**± 8,64 m^3**</td></tr></table> **11.** An underground 80 mm UPVC or HDPE pipe will be laid from Solar BH4 to the point of abstraction inside the Cluster 1 footprint. The exact position is still to be determined. A trench digger will provide a 300 mm wide trench to rock strata – 400 to 600 mm below ground. The length (50 m), width (0,3 m) and depth (0,6 m) of the trench within the wetland will result in the moving of 9 m^3 of soil. <table><tr><td>Solar BH4</td><td>30°52'17.66"S & 24°18'38.12"E</td></tr><tr><td>Distance (m)</td><td>± 50 m</td></tr><tr><td>Width (m) Depth (m)</td><td>300 mm wide trench 0.6 m</td></tr><tr><td>Volume (m^3)</td><td>**9 m^3**</td></tr></table>
GN R 327 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;	**Existing private road where the District Road intersects the boundary of Farm Riet Fountain No. 39C and continues to the western boundary fence of Sun Central Cluster 1 (300 MW) Solar PV Facility** The original proposed alignment along this section of private roads (farm tracks) has been revised to use existing farm tracks as far as is possible. Construction therefore constitutes expansion, not development. However, there are four sections where the centre line of the proposed alignment is further than 4 m from existing farm tracks. These sections are approximately: • New road section 1: ± 43 m long (start: 30° 51' 28,52'' S & 24° 17' 43,92" E, middle: 30° 51' 29,02'' S & 24° 17' 44,35" E, end: 30° 51' 29,59'' S & 24° 17' 44,44" E), • New road section 2: ± 32 m long (start: 30° 51' 33,34'' S & 24° 17' 43,82" E, middle: 30° 51' 33,89'' S & 24° 17' 43,90" E, end: 30° 51' 34,28'' S & 24° 17' 44,19" E), • New road section 3: ± 236 m long (start: 30° 51' 35,82'' S & 24° 17' 45,88" E, middle: 30° 51' 38,23'' S & 24° 17' 49,81" E, end: 30° 51' 40,68'' S & 24° 17' 53,67" E), and • New road section 4: ± 1,2 km long (start: 30° 51' 56,81'' S & 24° 18' 06,53" E, middle: 30° 52' 13,67'' S & 24° 17' 58,87" E, end: 30° 52' 29,99'' S & 24° 17' 58,02" E). It can be argued that these four sections of 8 m-wide road constitute new development in which case they trigger this activity as the proposed Right of way servitude will be 19 m wide. Three (3) or more 3 m-wide and 30 m-long passing lanes may be required during

<table>
<tr><td></td><td>construction. These passing lanes will remain within the fenced road servitude.

Development of a new road to the Switching Station and Main Transmission Substation

The length and width of the new road build will be ± 2,65 km and 8 m (excluding the side/cut-off drain), but 11 m (including the side/cut-off drain) and the proposed Right of way servitude will be 19 m wide.</td></tr>
<tr><td>GN R 327 Item 48 (i) (a) and (c): The expansion of –

(i) infrastructure or structures where the physical footprint is expanded by 100 square metres or more;

where such expansion occurs -

(a) within a watercourse;

(c) if no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse;</td><td>Existing ‘Burgerville’ District Road (2448)

• The N10/ ‘Burgerville’ District Road (2448) intersection will be widened from an existing width of approximately 25,7 m to approximately 60 m (measured along the top of the road). The outer edge of the turnoff is currently ± 40 m from the edge of a headwater drainage line, and should be ± 22.85 m from the edge of the headwater drainage line once widened by an additional ± 17.15 m:

Section 1.1 (Headwater Drainage Line): 30 52 32.0 S; 24 13 26.9 (Alt. 1322 m)

The headwater drainage is on the edge of an extensive floodplain area, extending eastwards along the southern fence line of the turn-off from the N10. It is evident that the road does not interfere with any of the drainage line functions.

Existing private road where the District Road intersects the boundary of Farm Riet Fountain No. 39C and continues to the western boundary fence of Sun Central Cluster 1 (300 MW) Solar PV Facility

There are no existing structures, so this listed activity applies only to the existing infrastructure, specifically farm tracks.

1. The Brak River Drainage System: 30°51'6.74"S 24°16'32.57"E and 30°51'9.48"S 24°16'48.11"E

Apart from the 5 m-wide and 100 m long Drift, the existing ± 2,6 m wide farm track through the Brak River will be widened by approximately 8,4 m to 11 m (allowing 8 m for the roadbed preparation, and up to 3 m for the side/cut-off drain). Consequently, the expansion of existing farm tracks (less 100 m for the Drift) occurring within the Brak River will result in the expansion of at least 3 620.4 m^2 of road (431 m x 8,4 m).

<table>
<tr><td>Start:</td><td>30°51'6.74"S 24°16'32.57"E (macro-channel bank)</td></tr>
<tr><td>Middle:</td><td>30°51'4.71"S; 24°16'39.98"E</td></tr>
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End:	30°51'9.48"S 24°16'48.11"E (macro-channel bank)
Distance (m)	± 531 m (between banks) ± 100 m long (length of Drift)
Width (m)	The drift shall be 5 m wide 8 m road plus 3 m drain
Expansion of Road (m)	**± 3 620.4 m²**

2. **Section 2.3 (Small Ephemeral Tributary):** 30°51'15.66"S 24°17'4.51"E

   Road Section 2.3 crosses a small ephemeral drainage line that originates on the Brak River floodplain. The existing ± 2,6 m wide farm track through the small ephemeral tributary will be widened by approximately 8,4 m to 11 m (allowing 8 m for the roadbed preparation, and up to 3 m for the side/cut-off drain). Consequently, the expansion of existing farm tracks occurring within the small ephemeral tributary will result in the expansion of **± 478.8 m²** of road (57 m x 8,4 m).

Start:	30°51'14.77"S; 24°17'3.84"E
Middle:	30°51'15.15"S; 24°17'4.87"E
End:	30°51'15.47"S; 24°17'5.83"E
Distance (m)	± 57 m
Width (m)	8 m road plus 3 m drain
Expansion (m²)	**± 478.8 m²**

3. **Wetland:** 30°51'22.09"; 24°17'24.76"E

   The access road runs along the edge of a wetland. The existing ± 2,6 m wide farm track along the edge of the wetland will be widened by approximately 8,4 m to 11 m (allowing 8 m for the roadbed preparation, and up to 3 m for the side/cut-off drain). Consequently, the expansion of existing farm tracks occurring within the wetland will result in the expansion of **± 697,2 m²** of road (83 m x 8,4 m).

Start:	30°51'21.63"S; 24°17'23.28"E
Middle:	30°51'22.09"; 24°17'24.76"E
End:	30°51'22.60"S; 24°17'26.18"E
Distance (m)	± 83 m
Width (m)	8 m road plus 3 m drain
Expansion (m²)	**± 697 m²**

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<td>
4. Earth Dam (Farm track): 30°51'57.84"S; 24°18'6.75"E

A 117 m section of the farm track occurs within 32 m of an earth dam. New road section 4 is ± 1,2 km long (start: 30° 51’ 56,81’’ S & 24° 18’ 06,53” E, middle: 30° 52’ 13,67’’ S & 24° 17’ 58,87” E, end: 30° 52’ 29,99’’ S & 24° 17’ 58,02” E), but 85 m of the 11 m wide new road section 4 (935 m²) occurs within 32 m of an earth dam. The remaining 32 m of existing ± 2,6 m wide farm track within 32 m of the earth dam will be widened by approximately 8,4 m to 11 m (allowing 8 m for the roadbed preparation, and up to 3 m for the side/cut-off drain). Consequently, the expansion of existing farm track occurring within 32 m of the earth dam will result in the expansion of ± 269 m² of road (32 m x 8,4 m).
<table>
<tr><td>Start:</td><td>30°51'55.87"S; 24°18'7.02"E</td></tr>
<tr><td>Middle:</td><td>30°51'56.34"S; 24°18'6.78"E</td></tr>
<tr><td>End:</td><td>30°51’56.81’’S; 24°18’06.53”E</td></tr>
<tr><td>Distance (m)</td><td>± 32 m</td></tr>
<tr><td>Width (m)</td><td>8 m road plus 3 m drain</td></tr>
<tr><td>Expansion (m²)</td><td>± 269 m²</td></tr>
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<tr>
<td>GN R 327 Item 56 (ii): The widening of a road by more than 6 metres, or the lengthening of a road by more than 1 kilometre -

(i) where the existing reserve is wider than 13,5 meters; or

(ii) where no reserve exists, where the existing road is wider than 8 metres; excluding where widening or lengthening occur inside urban areas.</td>
<td>Existing ‘Burgerville’ District Road (2448)

The N10/ ‘Burgerville’ District Road (2448) intersection will be widened from an existing width of approximately 25,7 m to approximately 60 m (measured along the top of the road) to accommodate the required turning circle from both directions and then gradually taper along a length of 20 m to the specified 7 m shoulder width. The existing district road reserve should be 19 or 20 m wide as the average fence line width is 19 m.</td>
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<td>GN R 324 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;</td>
<td>Existing private road where the District Road intersects the boundary of Farm Riet Fountain No. 39C and continues to the western boundary fence of Sun Central Cluster 1 (300 MW) Solar PV Facility

The original proposed alignment along this section of private roads (farm tracks) within the CBA2 has been revised to use existing farm tracks as far as is possible. Construction therefore constitutes expansion, not development. However, there are four sections where the centre line of the proposed alignment is further than 4 m from existing farm tracks. These sections are approximately:</td>
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New road section 1: ± 43 m long (start: 30° 51’ 28,52’’ S & 24° 17’ 43,92” E, middle: 30° 51’ 29,02’’ S & 24° 17’ 44,35” E, end: 30° 51’ 29,59’’ S & 24° 17’ 44,44” E),
New road section 2: ± 32 m long (start: 30° 51’ 33,34’’ S & 24° 17’ 43,82” E, middle: 30° 51’ 33,89’’ S & 24° 17’ 43,90” E, end: 30° 51’ 34,28’’ S & 24° 17’ 44,19” E),
New road section 3: ± 236 m long (start: 30° 51’ 35,82’’ S & 24° 17’ 45,88” E, middle: 30° 51’ 38,23’’ S & 24° 17’ 49,81” E, end: 30° 51’ 40,68’’ S & 24° 17’ 53,67” E), and
New road section 4: ± 1,2 km long (start: 30° 51’ 56,81’’ S & 24° 18’ 06,53” E, middle: 30° 52’ 13,67’’ S & 24° 17’ 58,87” E, end: 30° 52’ 29,99’’ S & 24° 17’ 58,02” E).

It can be argued that these four sections of 8 m-wide road constitute new development in which case they trigger this activity as they all occur within a CBA2, but the proposed Right of way servitude will be 19 m wide. Three (3) or more 3 m-wide and 30 m-long passing lanes may be required during construction. These passing lanes will remain within the road servitude.
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GN R 324 Item 14 (ii) (a) and (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 -

(a) within a watercourse;

(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.
</td><td>
The full length (14.1 km) of the access road falls within Critical Biodiversity Areas (CBAs) or Ecological Support Areas (ESAs). This listed activity relates to the development of crossing/drainage structures (items 1 to 9) and infrastructure (items 10 to 13).

Section 1.2 (Small Ephemeral Tributary): 30 51 59.1 S; 24 13 49.7 (Alt. 1311 m)

A small ephemeral drainage line reaches the road, flows along the left shoulder of the road up to the coordinates above, where it crosses the road. The engineers must decide on the nature of the drainage design (e.g., using riprap, gabion mattresses, and/or other permeable material) that is needed to prevent the elevated road from (a) obstructing surface and sub-surface flow through the system, and (b) prevent pooling on the upstream edge of the road.
<table>
<tr><td>Start:</td><td>30°52'3.61"S; 24°13'46.94"E</td></tr>
<tr><td>Middle:</td><td>30°52'1.25"S; 24°13'48.43"E</td></tr>
<tr><td>End:</td><td>30 51 59.1 S; 24 13 49.7</td></tr>
<tr><td>Distance (m)</td><td>± 162 m</td></tr>
<tr><td>Width (m)</td><td>8 m road plus 3 m drain</td></tr>
<tr><td>Area (m^2)</td><td>maximum 1 782 m^2</td></tr>
</table>

Section 1.3 (Large Ephemeral Tributary): 30 51 42.6 S; 24 14 00.5 E (Alt. 1315 m)

</td></tr>
</table>

Where the large ephemeral tributary reaches the road, it is dammed by the presence of the road and drains down the left shoulder of the road. The floodwater then crosses the road to enter the downstream drainage and later joins the original drainage line. The area along the road is scoured due to periodic flows, and where the flows cross the road to the downstream catchment, flow damage to the road is evident. This large ephemeral tributary (synonymous with Crossing C8 in the Hydrological Assessment Report) requires permanent box culverts.

Start:	30°51'46.87"S; 24°13'57.58"E
Middle:	30°51'45.51"S; 24°13'58.46"E
End:	30°51'44.14"S; 24°13'59.35"E
Distance (m)	± 96 m
Width (m)	8 m road plus 3 m drain
Area (m^2)	**maximum 1 056 m^2**

3. **Section 1.4 (Headwater Drainage Line):** 30 51 29.3 S; 24 14 23.7 E (Alt. 1314 m)

Road Section 1.4 indicates the section of the road where the road cross over a headwater drainage area. The road obstructs seepage from the small headwater drainage catchment and sedges appear in the wetter clay soil next to the road. It seems that drainage water does not flow over the road (no damage or pooling on the road). Downstream of the road the drainage area is covered with shrub growth. The engineers must decide on the nature of the drainage design (e.g., using riprap, gabion mattresses, and/or other permeable material) that is needed to prevent the elevated road from (a) obstructing surface and sub-surface flow through the system, and (b) prevent pooling on the upstream edge of the road.

Start:	30°51'30.15"S; 24°14'21.38"E
Middle:	30°51'29.16"S; 24°14'23.82"E
End:	30°51'28.16"S; 24°14'26.20"E
Distance (m)	± 142 m
Width (m)	8 m road plus 3 m drain
Area (m^2)	**maximum 1 562 m^2**

4. **Section 1.5 (Large Ephemeral Tributary):** 30 51 25.7 S; 24 14 12.3 E and 30 51 25.8 S; 24 14 47.1 E (Altitude 1309 m)

Road Section 1.5 indicates the section of the road where the road cross over two drainage lines: a) the start of a short tributary

of the main local drainage line and b) a large ephemeral drainage line crosses the road through an existing pipe culvert. The engineers must decide on the nature of the drainage design (e.g., using riprap, gabion mattresses, and/or other permeable material) across the start of the short tributary of the main local drainage line, and which is needed to prevent the elevated road from (a) obstructing surface and sub-surface flow through the system, and (b) prevent pooling on the upstream edge of the road.

Start:	30°51'25.28"S; 24°14'40.02"E
Middle:	30°51'25.28"S; 24°14'40.09"E
End:	30°51'25.28"S; 24°14'40.18"E
Distance (m)	± 4 m
Width (m)	8 m road plus 3 m drain
Area (m^2)	**± 44 m^2**

5. **Earth Dam (District Road):** 30°51'25.63"S and 24°14'56.91"E

   An 83 m section of district road occurs within 32 m of an earth dam. A Drift with rock fill or similar design structure may need to be adopted to protect the access road from seepage and/or overflow from the earth dam.

Start:	30°51'25.00"S; 24°14'55.18"E
Middle:	30°51'24.84"S; 24°14'56.71"E
End:	30°51'24.59"S; 24°14'58.25"E
Distance (m)	± 83 m
Width (m)	8 m road plus 3 m drain
Area (m^2)	**maximum 913 m^2**

6. **Section 2.2 (The Brak River Drainage System):** 30°51'6.74"S 24°16'32.57"E and 30°51'9.48"S 24°16'48.11"E

   The crossing over the Brak River is likely to be a Drift with rock fill to spread the surface water into a broadly distributed sheet whilst maintaining unrestricted subterranean flow. The Drift shall be 5 m wide, 100 m long (final length to be determined on site), so the physical footprint will be **circa 500 m^2**.

Start:	30°51'6.74"S 24°16'32.57"E (macro-channel bank)
Middle:	30°51'4.71"S; 24°16'39.98"E
End:	30°51'9.48"S 24°16'48.11"E (macro-channel bank)

Distance (m)	± 531 m (between banks) ± 100 m long (length of Drift)
Width (m)	The drift shall be 5 m wide
Area (m^2) of Drift	± **500 m^2**

7. **Section 2.3 (Small Ephemeral Tributary):** 30°51'15.66"S 24°17'4.51"E

   Road Section 2.3 crosses a small ephemeral drainage line that originates on the Brak River floodplain. There is a small dam in the upstream drainage. The engineers must decide on the nature of the drainage design (e.g., using riprap, gabion mattresses, and/or other permeable material) that is needed to prevent the elevated road from (a) obstructing surface and sub-surface flow through the system, and (b) prevent pooling on the upstream edge of the road.

Start:	30°51'14.77"S; 24°17'3.84"E
Middle:	30°51'15.15"S; 24°17'4.87"E
End:	30°51'15.47"S; 24°17'5.83"E
Distance (m)	± 57 m
Width (m)	8 m road plus 3 m drain
Area (m2)	**maximum 627 m^2**

8. **Section 2.5 (Headwater Drainage):** 30°51'38.05"S 24°17'49.25"E

   At Road Section 2.5, the road crosses a 70 m-wide floodplain area, which is draining an area containing headwater drainage with floodplain flats, into an area with alluvial fans. The engineers must decide on the nature of the drainage design (e.g., using riprap, gabion mattresses, and/or other permeable material) that is needed to prevent the elevated road from (a) obstructing surface and sub-surface flow through the system, and (b) prevent pooling on the upstream edge of the road.

Start:	30°51'37.00"S; 24°17'47.74"E
Middle:	30°51'37.64"S; 24°17'48.83"E
End:	30°51'38.29"S; 24°17'49.93"E
Distance (m)	± 70 m
Width (m)	8 m road plus 3 m drain
Area (m2)	**maximum 770 m^2**

9. **Earth Dam (Farm Track)**: 30°51'57.84"S; 24°18'6.75"E

A 117 m section of the farm track occurs within 32 m of an earth dam. A Drift with rock fill or similar design structure may need to be adopted to protect the access road from seepage and/or overflow from the earth dam.

Start:	30°51'55.87"S; 24°18'7.02"E
Middle:	30°51'57.81"S; 24°18'6.40"E
End:	30°51'59.30"S; 24°18'5.17"E
Distance (m)	± 117 m
Width (m)	A Drift shall be ±5 m wide
Area (m2)	**585 m²**

10. There are four sections where the centre line of the proposed alignment is further than 5,5 m from existing farm tracks, and therefore assumed to constitute development of infrastructure (instead of expansion):

New road section 3 is ± 236 m long (start: 30° 51' 35,82'' S & 24° 17' 45,88" E, middle: 30° 51' 38,23'' S & 24° 17' 49,81" E, end: 30° 51' 40,68'' S & 24° 17' 53,67" E), but it crosses **Section 2.5 (Headwater Drainage):** 30°51'38.05"S 24°17'49.25"E. At Road Section 2.5, the road crosses a 70 m-wide floodplain area, which is draining an area containing headwater drainage with floodplain flats, into an area with alluvial fans.

Start:	30°51'37.00"S; 24°17'47.74"E
Middle:	30°51'37.64"S; 24°17'48.83"E
End:	30°51'38.29"S; 24°17'49.93"E
Distance (m)	± 70 m
Width (m)	8 m road plus 3 m drain
Area (m²)	**± 770 m²**

New road section 4 is ± 1,2 km long (start: 30° 51' 56,81'' S & 24° 18' 06,53" E, middle: 30° 52' 13,67'' S & 24° 17' 58,87" E, end: 30° 52' 29,99'' S & 24° 17' 58,02" E), but 85 m of the 11 m wide new road section 4 (**935 m²**) occurs within 32 m of an earth dam.

Start:	30°51'56.81''S; 24°18'06.53"E
Middle:	30°51'58.06"S; 24°18'5.89"E
End:	30°51'59.30"S; 24°18'5.17"E
Distance (m)	± 85 m

Width (m)	8 m road plus 3 m drain
Area (m2)	**± 935 m²**

11. An approximately 800 m long underground 110 mm uPVC pressure pipe will be laid from Borehole No. 13 and/or 14 to the point of abstraction alongside a farm track and inside the Cluster 1 footprint. The length (35 m) and width (0,3 m) of the trench within the watercourse (unnamed FEPA drainage line D62D – 05610 SQ) will cover a surface area of **10.5 m²**.

Start:	30°51'36.40"S; 24°18'55.92"E
Middle:	30°51'36.60"S; 24°18'55.29"E
End:	30°51'36.79"S; 24°18'54.65"E
Distance (m)	± 35 m
Width (m)	300 mm wide trench
Area (m2)	**± 10.5 m²**

12. An approximately 400 m long underground 80 mm UPVC or HDPE pipe will be laid from BH5 to the point of abstraction on the Switching Station Dx platform inside the Cluster 1 footprint. The exact position is still to be determined A trench digger will provide a 300 mm wide trench to rock strata – 400 to 600 mm below ground. The length of the wetland intersected by the trench is ± 48 m, making the physical footprint **14.4 m²**.

Start:	30°53'3.90"S & 24°18'52.67"E
Middle:	30°53'4.41"S; 24°18'52.00"E
End:	30°53'4.65"S; 24°18'51.19"E
Distance (m)	± 48 m
Width (m)	300 mm wide trench
Area (m2)	**14.4 m²**

13. An underground 80 mm UPVC or HDPE pipe will be laid from Solar BH4 to the point of abstraction inside the Cluster 1 footprint. The exact position is still to be determined. A trench digger will provide a 300 mm wide trench to rock strata – 400 to 600 mm below ground. The length of the wetland intersected by the trench is ± 50 m, making the physical footprint **15 m²**.

Solar BH4	30°52'17.66"S & 24°18'38.12"E
Distance (m)	± 50 m
Width (m)	300 mm wide trench
Area (m^2)	**15 m²**

GN R 324 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;	**Existing 'Burgerville' District Road (2448)** • The N10/ 'Burgerville' District Road (2448) intersection will be widened from an existing width of approximately 25,7 m to approximately 60 m (measured along the top of the road) to accommodate the required turning circle from both directions and then gradually taper along a length of 20 m to the specified 7 m shoulder width. The existing reserve is likely to be wider than 13,5 m as the average fence line width is 19 m. Although the site is located within an ESA (not a CBA), it is within 100 m from the edge of the following watercourse: **Section 1.1 (Headwater Drainage Line):** 30 52 32.0 S; 24 13 26.9 (Alt. 1322 m) This is the turn-off from the N10, going eastwards on the northern perimeter of a wide floodplain area. The water resource type nearest to the road consists of headwater drainage on the edge of the extensive floodplain. It is evident that the road does not interfere with any of the drainage line functions. However, the intersection adjoining the N10 will be widened from an existing width of approximately 25,7 m to approximately 60 m (measured along the top of the road). The outer edge of the turnoff is currently ± 40 m from the edge of the headwater drainage line, and should be ± 22.85 m from the edge of the headwater drainage line once widened by an additional ± 17.15 m. **Existing private road where the District Road intersects the boundary of Farm Riet Fountain No. 39C and continues to the western boundary fence of Sun Central Cluster 1 (300 MW) Solar PV Facility** • The existing ± 2,6 m wide farm tracks will be widened by approximately 5,4 m to 8 m (excluding up to 3 m for the side/cut-off drain). Consequently, the expansion of existing farm tracks within the CBAs 1 and 2, as well as those occurring within 100 m of a watercourse will trigger this activity, including: - **Wetland (old borrow pit):** 30°51'13.38"S, 24°15'51.07"E (centre) - **Section 2.2 Brak River Drainage System:** 30°51'6.74"S 24°16'32.57"E and 30°51'9.48"S 24°16'48.11"E, - **Section 2.3 Small Ephemeral Tributary:** 30°51'15.66"S 24°17'4.51"E - **Wetland:** 30°51'22.09"; 24°17'24.76"E (centre) - **Section 2.5 Headwater Drainage:** 30°51'38.05"S; 24°17'49.25"E - **Earth dam:** 30°51'57.84"S; 24°18'6.75"E (centre)
GN R 324 Item 23 (bb) (ii) (a) and (c) (g) (ii) (ee): The expansion of—	**Existing private road where the District Road intersects the boundary of Farm Riet Fountain No. 39C and continues to the**

(bb) dams or weirs where the dam or weir is expanded by 10 square metres or more; or (ii) infrastructure or structures where the physical footprint is expanded by 10 square metres or more; where such expansion occurs— (a) within a watercourse; (c) if no development setback has been adopted, within 32 metres of a watercourse, measured from the edge of a watercourse; excluding the expansion of infrastructure or structures within existing ports or harbours that will not increase the development footprint of the port or harbour. 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;	**western boundary fence of Sun Central Cluster 1 (300 MW) Solar PV Facility** There are no existing structures, so this activity applies only to the existing infrastructure, specifically existing farm tracks within a watercourse AND the CBAs 1 and 2. **1. The Brak River Drainage System:** 30°51'6.74"S 24°16'32.57"E and 30°51'9.48"S 24°16'48.11"E Apart from the 5 m-wide and 100 m long Drift, the existing ± 2,6 m wide farm track through the Brak River will be widened by approximately 8,4 m to 11 m (allowing 8 m for the roadbed preparation, and up to 3 m for the side/cut-off drain). Consequently, the expansion of existing farm tracks (less 100 m for the Drift) occurring within the Brak River will result in the expansion of at least 3 620.4 m^2 of road (431 m x 8,4 m). Start: 30°51'6.74"S 24°16'32.57"E (macro-channel bank) Middle: 30°51'4.71"S; 24°16'39.98"E End: 30°51'9.48"S 24°16'48.11"E (macro-channel bank) Distance (m): ± 531 m (between banks); ± 100 m long (length of Drift) Width (m): The drift shall be 5 m wide; 8 m road plus 3 m drain Expansion of Road (m): **± 3 620.4 m^2** **2. Section 2.3 (Small Ephemeral Tributary):** 30°51'15.66"S 24°17'4.51"E Road Section 2.3 crosses a small ephemeral drainage line that originates on the Brak River floodplain. The existing ± 2,6 m wide farm track through the small ephemeral tributary will be widened by approximately 8,4 m to 11 m (allowing 8 m for the roadbed preparation, and up to 3 m for the side/cut-off drain). Consequently, the expansion of existing farm tracks occurring within the small ephemeral tributary will result in the expansion of **± 478.8 m^2** of road (57 m x 8,4 m). Start: 30°51'14.77"S; 24°17'3.84"E Middle: 30°51'15.15"S; 24°17'4.87"E End: 30°51'15.47"S; 24°17'5.83"E Distance (m): ± 57 m Width (m): 8 m road plus 3 m drain

Expansion (m^2)	**± 478.8 m^2**

3. **Wetland:** 30°51'22.09"; 24°17'24.76"E

   The access road runs along the edge of a wetland. The existing ± 2,6 m wide farm track along the edge of the wetland will be widened by approximately 8,4 m to 11 m (allowing 8 m for the roadbed preparation, and up to 3 m for the side/cut-off drain). Consequently, the expansion of existing farm tracks occurring within the wetland will result in the expansion of **± 697,2 m^2** of road (83 m x 8,4 m).

Start:	30°51'21.63"S; 24°17'23.28"E
Middle:	30°51'22.09"; 24°17'24.76"E
End:	30°51'22.60"S; 24°17'26.18"E
Distance (m)	± 83 m
Width (m)	8 m road plus 3 m drain
Expansion (m^2)	**± 697 m^2**

4. **Earth Dam (Farm track):** 30°51'57.84"S; 24°18'6.75"E

   A 117 m section of the farm track occurs within 32 m of an earth dam. New road section 4 is ± 1,2 km long (start: 30° 51' 56,81'' S & 24° 18' 06,53" E, middle: 30° 52' 13,67'' S & 24° 17' 58,87" E, end: 30° 52' 29,99'' S & 24° 17' 58,02" E), but 85 m of the 11 m wide new road section 4 (**935 m^2**) occurs within 32 m of an earth dam. The remaining 32 m of existing ± 2,6 m wide farm track within 32 m of the earth dam will be widened by approximately 8,4 m to 11 m (allowing 8 m for the roadbed preparation, and up to 3 m for the side/cut-off drain). Consequently, the expansion of existing farm track occurring within 32 m of the earth dam will result in the expansion of **± 269 m^2** of road (32 m x 8,4 m).

Start:	30°51'55.87"S; 24°18'7.02"E
Middle:	30°51'56.34"S; 24°18'6.78"E
End:	30°51'56.81''S; 24°18'06.53"E
Distance (m)	± 32 m
Width (m)	8 m road plus 3 m drain
Expansion (m^2)	**± 269 m^2**

Section 24E of NEMA requires that every EA must ensure that adequate provision is made for the ongoing management and monitoring of impacts of the activity on the environment throughout the life cycle of the activity. The life cycle of the activity is determined by the scope of the activity. If the activity requires EA for development only, the development phase is the scope of the activity. If the activity requires EA for development and operation, the development and operational phases make up the scope of the activity (Environmental Authorisation Validity

Period Explanatory Document, 2018). Only when the activity includes such an operational component, the relevant basic assessment report, environmental impact assessment report, the environmental authorisation (including any conditions thereto) and the EMPr can include aspects regarding the operation scope of the activity e.g., mitigation actions for the operational phase (Environmental Authorisation Validity Period Explanatory Document, 2018).

None of the abovementioned listed and/or specified activities that are triggered, and which require environmental authorisation, specifically include the term '*and related operation*'. Consequently, the scope of the activities pertaining to this project does not have an operational (or decommissioning) component. All activities that are to be undertaken during the development of an access road and water pipelines, have been described for the planning and design, pre-construction, construction, and post-construction phases only. Pre-construction follows on from the final project planning and tender phase and leads up to the establishment of the appointed contractor on site.

2. 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.

Please refer to **Appendix F1 (**Impact Assessment of Alternatives)

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

~~**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:

Please refer to **Appendix F1 (**Impact Assessment of Alternatives) **and Appendix F2** (Impact Assessment of Preferred Route).

Alternative:	**Latitude (S):**	**Longitude (E):**
Alternative S1 (preferred)		
• Starting point of the activity	30°52'31.55"S	24°13'25.94"E
• Middle/Additional point of the activity *(Start of private road - entry to Riet Fountain 39C)*	30°51'17.05"S	24°15'52.05"E
• End point of the activity	30°53'20.88"S	24°18'53.49"E
Alternative S2 (if any)		
• Starting point of the activity	31°4'18.54"S	24°26'37.65"E
• Middle/Additional point of the activity	30°57'56.37"S	24°23'35.44"E
• End point of the activity	30°53'21.98"S	24°18'53.85"E
~~Alternative S3 (if any)~~		
~~• Starting point of the activity~~		
~~• Middle/Additional point of the activity~~		
~~• End point of the activity~~		

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

N/A - Please refer to **Appendix F1 (**Impact Assessment of Alternatives)

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

c) Technology alternatives

N/A - Please refer to **Appendix F1 (**Impact Assessment of Alternatives)

~~**Alternative 1 (preferred alternative)**~~
~~**Alternative 2**~~
~~**Alternative 3**~~

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

N/A - Please refer to **Appendix F1 (**Impact Assessment of Alternatives)

~~**Alternative 1 (preferred alternative)**~~		
~~**Alternative 2**~~		
~~**Alternative 3**~~		

e) No-go alternative

The No-Go option poses no ecological threat before mitigation but the continued use of the existing road network in its current state of disrepair would make it impossible to deliver the heavy equipment to site (**Appendix F1** – Impact Assessment of Alternatives).

South Africa's electricity infrastructure has been degrading in the past decades, with both scheduled and unscheduled power outages on the increase. Simply put, South Africa cannot generate sufficient electricity to supply its people and economy. Apart from load shedding, creating an awareness of and implementing power saving initiatives to reduce demand, no alternative exists other than "to rapidly expand our energy generation capacity" (President Cyril Ramaphosa: 2021 State of the Nation Address, 2021 https://www.gov.za/speeches/president-cyril-ramaphosa-2021-state-nation-address-11-feb-2021-0000).

Consequently, the No-Go option would have an indirect but significant negative socio-economic impact as the Main Transmission Substation (MTS), Sun Central Cluster 1 Solar PV Facility, and other future facilities (1 GW in total) cannot be built without the improved access road. These Solar PV Facilities, will make a significant contribution to our country's power deficit when supply falls below the demand, meeting basic needs and equity that the no-go option cannot achieve.

Paragraphs 3 – 13 below should be completed for each alternative.

3. 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[1] (preferred activity alternative)~~	~~m^2~~
~~Alternative A2 (if any)~~	~~m^2~~
~~Alternative A3 (if any)~~	~~m^2~~

or, for linear activities:

Alternative:	**Length of the activity:**
Alternative A1 (preferred activity alternative)	14.1 km
Alternative A2 (if any)	25.7 Km
~~Alternative A3 (if any)~~	m

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

[1] "Alternative A.." refer to activity, process, technology or other alternatives.

Alternative:	**Size of the site/servitude:**
Alternative A1 (preferred activity alternative)	19 m wide servitude
Alternative A2 (if any)	19 m wide servitude
~~Alternative A3 (if any)~~	m^2

4. SITE ACCESS

Alternative A1 (preferred activity alternative)

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

Describe the type of access road planned:

Access to the site via the existing gravel District Road 2448 from the N10 (**Appendix A** - Route Plan Preferred Alternative No. 1).

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.

Alternative A2

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

Describe the type of access road planned:

Access to the site via the existing gravel District Road 2451 from Hanover Town (**Appendix A** - Route Plan Alternative Route No.2)

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.

5. 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;
- indication of all the alternatives identified;
- closest town(s;)
- road access from all major roads in the area;
- road names or numbers of all major roads as well as the roads that provide access to the site(s);
- all roads within a 1km radius of the site or alternative sites; and
- a north arrow;
- a legend; and
- 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).

Please refer to **Appendix A** (Maps)

6. 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.

Please refer to **Appendix A** (Maps)

7. 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.

Please refer to **Appendix A** (Maps)

8. 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.

Please refer to **Appendix B** (Photographs)

9. 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.

This application is for an access road and has no facilitates on site. Refer to the above Section A 1: Activity Description and **Appendix A**: Maps, including the route plans.

10. ACTIVITY MOTIVATION

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

Alternative A1 (preferred activity alternative) and Alternative A2

1. Is the activity permitted in terms of the property's existing land use rights?	YES	~~NO~~	Please explain
The District Road will remain as a district road. The access road on private property will be registered as a 19 m wide servitude. However, the properties intersected by the access road will remain zoned as Agriculture 1 and Renewable Energy Plant Zone as per the Emthanjeni Local Municipality town planning scheme.			
2. Will the activity be in line with the following?			
(a) Provincial Spatial Development Framework (PSDF)	YES	~~NO~~	Please explain
The Northern Cape Provincial Spatial Development Framework (2011) notes that the Northern Cape Province's major energy challenges include securing energy supply to meet growing demand, providing everybody with access to energy services and tackling the causes and impacts of climate change. In this regard, the development of large-scale renewable energy supply schemes is strategically important for increasing the diversity of domestic energy supplies for the Northern Cape Province and avoiding energy imports while minimising the environmental impacts. The Provincial Spatial Development Framework further notes that renewable energy has been identified as a mechanism to diversify the economy and thereby promoting a green economy in the province. The Provincial Spatial Development Framework also notes that the tourism sector is identified as one of the key sectors with the capacity to 'grow, transform and diversify the provincial economy'. Care therefore needs to be taken to ensure that the development of large renewable energy projects, such as the proposed project; do not affect the tourism potential of the Province. ***Relevance to the Project:*** The project aligns with many aspects of the SDF in terms of spatial planning objectives. The access road will contribute to the increased renewable energy objective for the district area and province, while maintain the agricultural potential of the affected landowner, mitigating climate change and not contributing to unsustainable land and water use practices. Further, the road upgrade will be a positive impact to local farmers and the public utilizing the section of the public road which will be upgraded and maintained.			
(b) Urban edge / Edge of Built environment for the area	YES	~~NO~~	Please explain
The project falls within the rural area of the Emthanjeni Local Municipality.			
(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
<u>Emthanjeni Local Municipality IDP 2021/2022 (09 June 2021)</u> Emthanjeni has in recent time seen the influx of investment in renewable energy projects and is a potential industrial growth point with ample industrial sites, reasonable prices and tariffs, affordable labour and the necessary infrastructure. The Emthanjeni Local Municipal Integrated Development Plan indicates that energy consumption will potentially increase by 10% and a similar strategy for alternative energy will have to be identified for both cooling in summer and heat in winter. The alternative of solar energy will be needed to relieve electricity. The Municipality is convinced that the Renewable Energy projects, New District Hospital and possibility of new Warehouse Hub and Manufacturing project for further development planned for the area would grow the economy enormously. ***Relevance to the Project:*** An access road to an approved renewable energy project within the Local Municipality (LM) is seen as a key deliverable to the economic growth of the area. <u>Emthanjeni Municipality Spatial Development Framework (SDF) 2007</u>			

It is the intention of the SDF to arrange development activities and the built environment in such a way and manner that it can accommodate and implement ideas and desires of people without compromising the natural environment.

The towns of Emthanjeni lie in an extensive stock farming area with the emphasis on sheep, mutton and wool farming, especially Merino's. It is proposed that the agricultural sector be retained as it is at present to ensure that it still plays an economic part in the future of the Municipal area. Tourism possibilities must be explored and developed to broaden the economic base of these areas.

As mentioned, the current land use is sheep farming, which the developer will, together with the landowner/farmer, endeavour to continue within the solar PV facility to ensure minimal reduction (if any) on the agricultural potential of the land.

Relevance to the Project: The project aligns with many aspects of the SDF in terms of spatial planning objectives. The access road will contribute to the increased renewable energy objective for the municipal area, while maintain the agricultural potential of the affected landowner, mitigating climate change and not contributing to unsustainable land and water use practices. Further, the road upgrade will be a positive impact to local farmers and the public utilizing the section of the public road which will be upgraded and maintained.

(d) Approved Structure Plan of the Municipality	~~YES~~	NO	Please explain

No approved Structure Plan of the Emthanjeni Municipality. However, there is a provincial strategic plan for the Northern Cape.

Northern Cape Strategic Plan (2020-2025)

The development of the Provincial Medium Term Strategic Framework Programme of Action (MTSF POA) 2019-2024 constitutes the high-level Provincial Growth and Development 5-Year Implementation Plan as it reflects the sequenced interventions and targets based on the Provincial Growth and Development Plan (PGDP) Pillars, Drivers and High Impact Investment Projects aimed at growth, development and prosperity. The development of the Provincial Programme of Action coincides with the review of the PGDP with the objective to ensure alignment between the PGDP and the MTSF 2019-2024.

The Strategic Plan for the 2019-2024 MTSF Programme of Action / PGDP 5-Year Implementation Plan and Monitoring Framework, is the instrument by which the province directs its effort and resources to the delivery of the Provincial Growth and Development Plan in line with the 7 MTSF priorities. The strategic focus for the duration of the 2020 to 2025 period is to strengthen the integration and synergy of the Provincial Departments and its affairs.

The 7 priorities are listed as follows:

1. Building a capable, ethical and developmental state
2. Economic transformation and job creation
3. Education, skills and health
4. Consolidating the social wage through reliable and quality basic services
5. Spatial integration, human settlements and local government
6. Social cohesion and safe communities
7. A better Africa and world

Part of the Strategic plan is to endure the finalisation of the Northern Cape Renewable Energy Strategy / Provincial Energy Strategy. The Northern Cape is one of the best sites in the world to produce solar renewable energy and that this potential has attracted to the province a large number of investors who are developing their CSP and PV plants under the DMRE's Renewable Energy Independent Power Producer Procurement Programme (REIPPPP). Given these facts, the finalisation of the draft Northern Cape Renewable Energy Strategy was identified as key. Since the approval of the initial Strategic Plan, government's focus with regard to energy has shifted since. This means that the province will need to develop a Provincial Energy Strategy that does not only align the exploitation of renewables with the PGDP and PSDF focus, but also take into account the opportunities for improved energy efficiency and exploration of gas and oil reserves as the means for

improved energy security and socio-economic development in the Northern Cape. The Department of Economic Development and Tourism is mandated to prioritise the development of the Provincial Energy Strategy.

Relevance to the Project: The successful authorisation and implementation of this Solar PV project is a preferred technology identified for the northern cape aligning with the key development priorities identified for the province.

(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

There is no EMF in place in the project area.

Alternative A1 (preferred):

The properties are however identified as Critical Biodiversity (CBA) and Ecological Support Areas (ESA) in terms of the Northern Cape CBA Map 2016 due to the presence of NFEPA wetlands, an Important Bird Area and vegetation types.

Alternative A2:

The properties are however identified as Critical Biodiversity (CBA) and Ecological Support Areas (ESA) in terms of the Northern Cape CBA Map 2016 due to the presence of NFEPA wetlands, an Important Bird Area and vegetation types. Further Alternative A2 is located in a National Protected Area Expansion Strategy (NPAES).

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

Alternative A1 (preferred):

- The study area falls within a CBA1 (all FEPA prioritised wetlands and rivers have a minimum category of CBA 1), a CBA2 (all FEPA prioritised wetland clusters have minimum category of CBA 2), an ESA (natural non-FEPA wetlands and larger rivers have minimum category of ESA) and FEPA Sub catchments.
- The study area is not within a protected area or within 5 km of a protected area according to the Protected Area Register (PAR).
- The study area is not within the core area or within 5 km of the core area of a Biosphere Reserve according to the PAR.
- The study area is not within a National Protected Area Expansion Strategy Focus Area according to the National Protected Area Expansion Strategy (2016).
- Not a critically endangered or endangered ecosystem in terms of SANBI's latest NBA (2022). The ecosystem threat status as per the NBA 2022 data provides a holistic view of the vegetation type, the threatened species associated with the ecosystem and the overall land use currently in the area. According to the Threatened Ecosystem Map (2022), the study area is "Least Concern".
- Not a RAMSAR site.
- There is no Bioregional Plan for the Pixley Ka Seme District Municipality District (pers. comm. Elsabe Swart, DAEARD&LR).

Alternative A2:

- The study area falls within a CBA1 (all FEPA prioritised wetlands and rivers have a minimum category of CBA 1), a CBA2 (all FEPA prioritised wetland clusters have minimum category of CBA 2), an ESA (natural non-FEPA wetlands and larger rivers have minimum category of ESA) and FEPA Sub catchments.
- The study area is not within a protected area or within 5 km of a protected area according to the Protected Area Register (PAR).
- The study area is not within the core area or within 5 km of the core area of a Biosphere Reserve according to the PAR.
- The portion of the study area **is within a National Protected Area Expansion Strategy Focus Area** according to the National Protected Area Expansion Strategy (2016).
- Not a critically endangered or endangered ecosystem in terms of SANBI's latest NBA (2022). The ecosystem threat status as per the NBA 2022 data provides a holistic view of the vegetation type, the

threatened species associated with the ecosystem and the overall land use currently in the area. According to the Threatened Ecosystem Map (2022), the study area is "Least Concern".

- Not a RAMSAR site.
- There is no Bioregional Plan for the Pixley Ka Seme District Municipality District (pers. comm. Elsabe Swart, DAEARD&LR).

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 proposed project would contribute to the economic stability of the area by establishing access to a sustainable industry on a property that has low agricultural potential.
- At a provincial level, the Northern Cape Provincial Spatial Development Framework (PSDF, see Section 1.5.2.8) notes that the Northern Cape Province's major energy challenges include securing energy supply to meet growing demand, providing everybody with access to energy services and tackling the causes and impacts of climate change. In this regard, the development of utility-scale renewable energy supply schemes is strategically important for increasing the diversity of domestic energy supplies for the Northern Cape Province and avoiding energy imports while minimising the environmental impacts. The PSDF further notes that renewable energy has been identified as a mechanism to diversify the economy and thereby promoting a green economy in the province.
- The Northern Cape Provincial Growth and Development Strategy (NCPGDS) (see Section 1.5.2.5) states that the development of new sources of energy through the promotion of the adoption of energy applications that display a synergy with the province's natural resource endowments must be encouraged. In this regard the NCPGDS notes that the development of energy sources such as solar energy could be a means by which new economic opportunity and activity is generated in the Northern Cape. The NCPGDS also highlights the importance of close co-operation between the public and private sectors for the economic development potential of the Northern Cape to be realised.
- The ELM IDP lists a number of industrial and manufacturing projects that form part of the larger strategy for the economic development of the municipality. One of these projects includes the establishment of De Aar as a Renewable Energy Hub. Basic service delivery, with energy as one of the priority issues, micro- and macro-economic development as well as land use management have been highlighted as key performance areas to be addressed within the ELM. The establishment of the access road to the already approved photovoltaic power plant has the potential to support a number of key strategies in the ELM IDP.
- Construction of the access road should take 6 to 8 weeks from start to finish. During this period there will be approximately 45 employment opportunities (mainly unskilled and semi-skilled). A large number of the workforce would be sourced from the surrounding areas.

Therefore, the construction of the Access Road which is directly linked to the operation of the Solar PV Facility will not compromise the integrity of the SDF of the Municipality

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

- Yes, the area has an unemployment rate of 28% (Census 2011 data) and the site is marginal for profitable agricultural activities. The proposed project would create a relatively large number of temporary (road construction) and permanent (over the lifespan of the project of the larger Solar PV facility) employment opportunities for the local De Aar/Hanover communities. The area around De Aar has also been identified as a Renewable Energy Hub in the ELM IDP.
- The policy case for the roll-out of renewable energy in South Africa has been made at a national and provincial government level using arguments that are in line with international policy trends. Targets that include solar energy have been set and incentives have been offered to renewable energy developers through the Renewable Energy Independent Power Producers Procurement Programme (REIPPPP) to

encourage projects. Aside from impacts on the achievement of national goals and policy imperatives, the project also has the potential to contribute to greater energy supply stability and security in the province and local area to the benefit of local residential electricity consumers as well as farmers and businesses.

- As indicated in the EML IDP, Emthanjeni has in recent time seen the influx of investment in Renewable energy projects and is a potential industrial growth point with ample industrial sites, reasonable prices and tariffs, affordable labour and the necessary infrastructure. Further, the Emthanjeni Local Municipal Integrated Development Plan, indicates that energy consumption will potentially increase by 10% and a similar strategy for alternative energy will have to be identified for both cooling in summer and heat in winter. The alternative of solar energy will be needed to relieve electricity.
- The Northern Cape Provincial Spatial Development Framework (2012) specifically recognises the potential for solar development in the province, identified with the introduction of a solar corridor stretching between ZFMgcawu and the Pixley ka Seme regions and the solar-themed special economic zone (SEZ) in Khara Hais Municipality.
- In 2014, the Renewable Energy Centre of Excellence (RECE) launched in the Northern Cape42. It serves as a platform for innovation and skills development in the renewable energy sector and focuses on unlocking potential and attracting investment.
- The province intends to become a net producer of renewable energy capital to the rest of the country by 2020, inviting investment and development into the province (State of Renewable Energy in SA, 2015).
- The project outcomes align with the national, local, and regional planning objectives in terms of economic development and sustainability.
- The project will provide access to the Solar PV facility which is the use of a natural, renewable resource and assist with decreasing the country's reliance on coal as a source of energy.
- The project will not affect the environmental rights of any of the affected stakeholder groups and no-one's livelihoods will be affected in a negative manner.
- The project will contribute to livelihood strategies of stakeholders in the area – directly through job creation and secondary economic opportunities, and indirectly through enterprise and socio-economic development by means of a community trust. Should the mitigation measures be implemented as recommended, the contribution to long-term sustainable outcomes will be significant.
- The project offers opportunities for semi- and unskilled labourers, which will ensure that the vulnerable groups are not excluded from economic opportunities.
- From a social perspective the positive impact that the project will have on the affected environment outweighs the negative impacts by far, and where there are negative impacts, it can be mitigated.

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

- Electricity for the construction camp will be sourced from two (2) 50 kVA (minimum) mobile generators with an integrated diesel tank (fuel capacity ± 200 litres), e.g., one will be used as backup during service periods and allow the other to rest. The integrated diesel tanks will be supplied with fuel from a bunded 5 to 10 m3 aboveground diesel tank. A filling station alongside the aboveground diesel tank and/or a mobile fuel bowser will supply plant on site for general use. The generators, aboveground fuel tank and filling station will be located at the construction camp.
- The proposed project would improve the current condition of the exiting public gravel road which provides access to various farmlands in the area.
- In terms of water requirements, the proposed project would utilise groundwater from two existing boreholes. Geo-hydrological Assessment confirmed that *"based on the groundwater availability on all sub-catchments for the current setting it is estimated that there is enough groundwater available on a subcatchment level to*

sustain the proposed 8-hour abstraction from the designated boreholes and the sub-catchments they fall in."

- All general waste would be disposed of at the De Aar licensed landfill site.
- The sanitation system adopted by the contractor(s) at the construction camp will be a containerised system whereby domestic wastewater will be stored in a conservancy tank(s) for safe disposal elsewhere and/or a package plant for the on-site disposal, using a septic tank-soakaway system as well as chemical toilets.

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

- In South Africa's growing Renewable Energy footprint, the Northern Cape, offers the most favourable solar radiation levels, has attracted the majority of the Solar PV projects and all of the CSP projects. The province, host to 48 of the 92 IPP projects in the country, is expected to contribute 3,566 MW to the total procured Renewable Energy capacity once construction is complete (*State of Renewable Energy in SA, 2015*).
- The District Municipality has proactively diversified its economy away from mining and agriculture through innovative local economic development initiatives, declaring themselves as a Renewable Energy Hub, seeking to attract foreign direct investment into solar, wind, hydro and biomass projects.
- Further, the Emthanjeni SDF proposes that the agricultural sector be retained as it is at present to ensure that it still plays an economic part in the future of the Municipal area. As mentioned, the current land use is sheep farming, which will continue within the larger solar PV facility, which the road provides access to, to ensure minimal reduction (if any) on the agricultural potential of the land.

7. Is this project part of a national programme to address an issue of national concern or importance?	YES	~~NO~~	Please explain

- The proposed project would strengthen the local electricity grid for the area and contribute to meeting the national renewable energy targets set by the Department of Mineral Resources and Energy (DMRE) by providing access to an approved 300MW Solar PV facility.
- There is a national electricity supply deficit and the country is now in a position where it needs to commission additional plants urgently. Consequently, renewable energy projects are a high priority (*Northern Cape Provincial SDF 2012*).
- South Africa is currently in an energy crisis. President Cyril Ramaphosa's address to the nation on energy crisis on 25 July 2022 mentioned a set of actions namely: "Firstly, are aimed at improving the performance Eskom's existing fleet of power stations. Secondly, will accelerate the procurement of new generation capacity. Thirdly, are intended to massively increase private investment in generation capacity".

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

Alternative A1 (preferred):

- The existing public 'Burgerville' District Road 2448 is in good condition but would require subgrade and subbase reconstruction in several areas, where stormwater runoff needs to be improved. These are all low-lying areas where water ponding occurs and has softened the layer works to the point where deep rutting occurs due to wheel tracks from traffic on the roads.

- The existing private farm tracks from where the formal district road known as road 2448 intersects the De Bad farm boundary onto the "old Hanover Road 3557", which has been deregistered and now forms part of the De Bad farm property.

Alternative A2:

- The existing district road (2451) is in a neglected state. It was found that stormwater drainage off the road is virtually non-existent, mainly due to excessive grading over the years resulting in the top layer often being lower than the surrounding verges. This results in ponding of water which has severely compromised the structural component of the road. Deep rutting is evident where vehicles dig their tyres into soft mud. The general geometry is acceptable. However, some inclines, corners, dips and peaks would need to be modified to comply with an ESKOM specification road. Significant repair would be required.
- Portion of this route is no longer registered as an official road but formally known as road 3557. The use of this section of road would require special permission from adjoining farmers and wayleaves would have to be obtained. The road is no longer recognisable as a former road, as it is heavily overgrown with vegetation. It could be considered as a farm track and would require extensive rebuilding to bring it to an acceptable road specification.
- There is a farm dam close by as well as a very sandy section, running through what could be a low-lying watershed area. This section also occurs within the 100 m buffer of a watercourse, which was delineated by the Aquatic specialist for Cluster 1.

Sun Central Cluster 1 Solar PV which the road provides access to:

- The location factors are favourable for the development the Solar PV plant which the road provides access to, including high and good quality solar irradiation, flat and gentle slopes and close proximity to existing Eskom infrastructure including powerlines and the N10 for transport links.
- The favourable location factors have attracted the majority of the Solar PV projects and all of the CSP projects. The province, host to 48 of the 92 IPP projects in the country, is expected to contribute 3,566MW to the total procured RE capacity once construction is complete (*State of Renewable Energy in SA, 2015*).

9. Is the development the best practicable environmental option for this land/site?	YES	~~NO~~	Please explain

Alternative A1 (preferred):

- The existing public 'Burgerville' District Road 2448 is in good condition.
- Exiting farm tracks will be utilized were possible to reduce vegetation clearance.

Sun Central Cluster 1 Solar PV which the road provides access to:

- There are other similar developments in the area, and it can be operated parallel to the existing farming activities.
- The location factors are favourable for the development of a Solar PV facility including high and good quality solar irradiation, flat and gentle slopes and close proximity to existing Eskom infrastructure including powerlines to feed into the grid and the N10 for transport links to which the road provides access to.
- The prevailing unfavourable climatic conditions for arable agriculture, as well as the prevalence of soils with limited depth, results in the farm not having a high agricultural potential.

10. Will the benefits of the proposed land use/development outweigh the negative impacts of it?	YES	~~NO~~	Please explain

- The potential impacts associated with the proposed project have been assessed by the appointed specialists. None of the specialist studies have identified any fatal flaws. All specialists' studies have recommended the access road subject to proposed mitigation measures which have been incorporated into the Environmental Management Programme (EMPr).
- Various Specialist were appointed to investigate sensitive elements of the receiving environment (plants, animals, terrestrial biodiversity, aquatic biodiversity) that may potentially be impacted on by the proposed road. Highly sensitive ecological features and areas within the proposed site will as far as is practical be avoided.
- The Sun Central Cluster 1 Solar PV facility which the road is providing access to will generate renewable energy that will feed into the national electricity grid. This is in line with the National Development Plan and sustainable development. As such it is a positive impact.
- From a social perspective the positive impact that the Sun Central Cluster 1 Solar PV facility which the road is providing access to will have on the affected environment outweighs the negative impacts by far, and where there are negative impacts, it can be mitigated.
- Some of the positive impacts include:
    - Creation of job opportunities (construction phase).
    - Economic benefits to the surrounding towns and communities through the implementation of various social and economic initiatives emanating from the approved Sun Central Cluster 1 Solar PV facility.
    - The wider and better maintained road would be a positive change to the community (Public road section) and local farmer (private section).
    - The project outcomes also align with the national, local, and regional planning objectives in terms of economic development and sustainability.
    - The development will be undertaken and implemented in conjunction with the pre-existing land use practices, the opportunity costs associated with the combined land uses are greatly improved. The Sun Central Cluster 1 project is predicated to provide a positive impact on the local area including electricity from a non-polluting renewable energy source, benefits to job creation and skills development. It is therefore anticipated that there will not be any unacceptable opportunity costs.
    - There are also relatively few tourism assets or facilities in the area that could be at risk. Business tourism would receive a significant boost. The project will contribute to livelihood strategies of stakeholders in the area – directly through job creation and secondary economic opportunities.

11. Will the proposed land use/development set a precedent for similar activities in the area (local municipality)?	YES	~~NO~~	Please explain

- The road provides access to a large Solar PV facility which would set a precedent could attract other Renewable Energy projects,

12. Will any person's rights be negatively affected by the proposed activity/ies?	~~YES~~	NO	Please explain

- The project will not affect the environmental rights of any of the affected stakeholder groups and no-one's livelihoods will be affected in a negative manner.
- The project will not result in any unfair discrimination or affect the social and environmental rights of any of the stakeholder groups, should the mitigation measures be implemented as suggested.

• From a social perspective the positive impact that the project will have on the affected environment outweighs the negative impacts by far, and where there are negative impacts, it can be mitigated.			
13. Will the proposed activity/ies compromise the "urban edge" as defined by the local municipality?	~~YES~~	NO	Please explain
• This project (construction of the access road liked to the solar PV facility) is a rural-based and not urban-based development. • The project falls within the rural area of the Emthanjeni Local Municipality.			
14. Will the proposed activity/ies contribute to any of the 17 Strategic Integrated Projects (SIPS)?	~~YES~~	NO	Please explain
No.			
15. What will the benefits be to society in general and to the local communities?			Please explain
• Creation of job opportunities (construction phase). • Economic benefits to the surrounding towns and communities through the implementation of various social and economic initiatives emanating from the approved Sun Central Cluster 1 Solar PV facility. • The wider and better maintained road would be a positive change to the community (Public road section) and local farmer (private section). • The project outcomes also align with the national, local, and regional planning objectives in terms of economic development and sustainability. • The development will be undertaken and implemented in conjunction with the pre-existing land use practices, the opportunity costs associated with the combined land uses are greatly improved. The Sun Central Cluster 1 project is predicated to provide a positive impact on the local area including electricity from a non-polluting renewable energy source, benefits to job creation and skills development. It is therefore anticipated that there will not be any unacceptable opportunity costs. • There are also relatively few tourism assets or facilities in the area that could be at risk. Business tourism would receive a significant boost. The project will contribute to livelihood strategies of stakeholders in the area – directly through job creation and secondary economic opportunities.			
16. Any other need and desirability considerations related to the proposed activity?			Please explain
N/A			
17. How does the project fit into the National Development Plan for 2030?			Please explain
The National Development Plan aims to eliminate poverty and reduce inequality by 2030. The NDP identifies a number of supporting milestones. Chapter 3, Economy and Employment, identifies some of the structural challenges specific to South Africa, including an energy constraint that will act as a cap on growth and on options for industrialisation. The NDP notes that from an environmental perspective South Africa faces several related challenges. The reduction of greenhouse gas emissions and shift to a green low-carbon economy, is one of these challenges. **Relevance to the Project:** The NDP refers to the need to produce sufficient energy to support industry at competitive prices and ensure access for poor households, while reducing carbon emissions per unit of power by about one-third. In this regard the infrastructure is not just necessary for faster economic growth and higher employment. The proposed access will contribute to this by providing access to an approved Solar PV facility.			
18. Please describe how the general objectives of Integrated Environmental Management as set out in section 23 of NEMA have been taken into account.			
The project development and authorisation process will align with the processes, principles and requirements of NEMA including but not limited to a full public participation process and BAR process as the vehicle to environmental authorisation for the listed activities that have been triggered. Central to BAR is the Impact			

Assessment process which will endeavour to reduce principal impacts by ensuring suitable footprint selection to areas that have the lowest sensitivity with the lowest concomitant loss of and impact to biodiversity and ecosystem function. The development of an Environmental Management Programme (EMPr) will mitigate/management activities throughout the project cycle likely to cause impacts to the receiving environment.

19. Please describe how the principles of environmental management as set out in section 2 of NEMA have been taken into account.

Section 2 of NEMA: Principles —

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

(3) Development must be socially, environmentally and economically sustainable.

(4) (a) Sustainable development requires the consideration of all relevant factors including the following:

(i) That the disturbance of ecosystems and loss of biological diversity are avoided, or, where they cannot be altogether avoided, are minimised and remedied

(ii) that pollution and degradation of the environment are avoided, or, where they cannot be altogether avoided, are minimised and remedied; remedied

(iii) that the disturbance of landscapes and sites that constitute the nation's cultural heritage is avoided, or where it cannot be altogether avoided, is minimised and remedied;

(iv) that waste is avoided, or where it cannot be altogether avoided, minimised and reused or recycled where possible and otherwise disposed of in a responsible manner

(v) that the use and exploitation of non-renewable natural resources is responsible and equitable, and takes into account the consequences of the depletion of the resource;

(vi) that the development, use and exploitation of renewable resources and the ecosystems of which they are part do not exceed the level beyond which their integrity is jeopardised;

(vii) that a risk averse and cautious approach is applied, which takes into account the limits of current knowledge about the consequences of decisions and actions; and

(viii) that negative impacts on the environment and on people's environmental rights be anticipated and prevented, and where they cannot be altogether prevented, are minimised and remedied.

(b) Environmental management must be integrated, acknowledging that all elements of the environment are linked and interrelated, and it must take into account the effects of decisions on all aspects of the environment and all people in the environment by pursuing the selection of the best practicable environmental option.

(c) Environmental justice must be pursued so that adverse environmental impacts shall not be distributed in such a manner as to unfairly discriminate against any person, particularly vulnerable and disadvantaged persons.

(d) Equitable access to environmental resources, benefits and services to meet basic human needs and ensure human wellbeing must be pursued and special measures may be taken to ensure access thereto by categories of persons disadvantaged by unfair discrimination.

(e) Responsibility for the environmental health and safety consequences of a policy, programme, project, product, process, service or activity exists throughout its life cycle.

(f) The participation of all interested and affected parties in environmental governance must be promoted, and all people must have the opportunity to develop the understanding, skills and capacity necessary for achieving equitable and effective participation, and participation by vulnerable and disadvantaged persons must be ensured.

(g) Decisions must take into account the interests, needs and values of all interested and affected parties, and this includes recognising all forms of knowledge, including traditional and ordinary knowledge.

(h) Community wellbeing and empowerment must be promoted through environmental education, the raising of environmental awareness, the sharing of knowledge and experience and other appropriate means.

(i) The social, economic and environmental impacts of activities, including disadvantages and benefits, must be considered, assessed and evaluated, and decisions must be appropriate in the light of such consideration and assessment.

(j) The right of workers to refuse work that is harmful to human health or the environment and to be informed of dangers must be respected and protected.

(k) Decisions must be taken in an open and transparent manner, and access to information must be provided in accordance with the law.

(l) There must be intergovernmental coordination and harmonisation of policies, legislation and actions relating to the environment.

(m) Actual or potential conflicts of interest between organs of state should be resolved through conflict resolution procedures.

(n) Global and international responsibilities relating to the environment must be discharged in the national interest.

(o) The environment is held in public trust for the people, the beneficial use of environmental resources must serve the public interest and the environment must be protected as the people's common heritage.

(p) The costs of remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling or minimising further pollution, environmental damage or adverse health effects must be paid for by those responsible for harming the environment.

(q) The vital role of women and youth in environmental management and development must be recognised and their full participation therein must be promoted.

(r) Sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores, estuaries, wetlands, and similar systems require specific attention in management and planning procedures, especially where they are subject to significant human resource usage and development pressure.

Specialist Studies

The following specialist's studies have been identified and form part of the BA process (**Appendix D**):

- Agriculture,
- Terrestrial Biodiversity,
- Avifauna,
- Aquatic Biodiversity,
- Archaeological & Cultural Heritage,
- Palaeontological,
- Visual Impact,
- Hydrology,
- Geotechnical,
- Geo-Hydrological,
- Socio-Economic,
- Noise Impact,
- Ambient Air Quality and
- Traffic Impact

None of the specialist studies identified any fatal flaws. All specialists' studies have recommended the development subject to proposed mitigation measures which have been incorporated into the Environmental Management Programmes (EMPr) attached as **Appendix G**.

Public Participation

The level of public participation was determined by taking into account the scale of the anticipated impacts of the proposed development, the sensitivity of the affected environment and the degree of controversy of the project, and the characteristics of the potentially affected parties. Based on the findings of the above considerations, it was decided to fulfil the minimum requirements of the public participation process outlined in the EIA Regulations, 2014.

Concerns raised by I&AP's have been captured in the Comments and Response Report (**Appendix E3**) as well as being addressed by the various specialists' assessments and mitigations thereof included in the EMPr (**Appendix G**).

Alternatives

The preferred alternative route No.1, Alternative Route No.2 and no-go option were identified for further assessment under alternatives.

Alternative Route No. 1 (preferred)

Is ± 14.1 km long, starts at the N10/Burgerville District Road intersection, traverses along part of the District Road and then enters private properties belonging to a single landowner with whom the Applicant (SAE) has a legal Agreement for the development and operation of Sun Central Cluster 1 Solar PV Facility, including the Switching Station (Dx) and Main Transmission Substation (MTS), where the road ends. The last ± 2,65 km follows undisturbed ground from the where the farm track reaches the perimeter fence of Cluster 1 to the Switching Station and Main Transmission Substation.

Alternative Route No. 2

Is 25.7 km long, starts at the N10/District Road 2451 intersection in Hanover Town, traverses along part of the District Road and then enters private properties belonging to multiple landowners before entering the landowner's property with whom the Applicant (SAE) has a legal Agreement for the development and operation of Sun Central Cluster 1 Solar PV Facility, including the Switching Station (Dx) and Main Transmission Substation (MTS), where the road ends. The last ± 1,8 km follows undisturbed ground from the where the farm track reaches the farm boundary and perimeter fence of Cluster 1 to the Switching Station and Main Transmission Substation.

An impact and risk assessment of the preferred alternative relative to a second alternative and the no-go option was undertaken. It is the EAP's opinion (for the reasons given below) that the proposed development of the preferred Alternative Route No. 1 is the **best practicable environmental option** and should be subjected to a Basic Assessment to comprehensively determine the feasibility of the project and mitigate impacts relating to its development.

No-go Option

The No-Go option would be a significant negative economic impact as the MTS and associated Solar PV Facility (and other facilities) cannot be built without the improved access road, thereby denying South Africans of basic needs and equity that are dependent on a consistent and reliable supply of green energy.

Environmental Impacts Identified

Ecoleges sets out to identify, predict and evaluate impacts and risks firstly by identifying the activities that are to be undertaken during the development, and where applicable, related operation of a listed or specified activity. The activities are used to identify environmental aspects, which are defined as elements of an organisation's activities, products or services that interact or can interact with the environment (ISO 14001). The environmental aspects are used to identify environmental impacts, which are defined as any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organisation's environmental aspects (ISO 14001). Then a ''safety net'' of standard considerations are taken into account to capture any elements that were not picked up during the identification of impacts. Finally, mitigations are sought and tailored to counteract negative impacts by achieving targets and desired outcomes that are in line with legal requirements and/or environmental best practice.

The identified impacts, comments received from I&APs and findings contained in specialist assessments, were assigned to the applicable phases of development (planning and design, pre-construction, construction, and post-construction) and aspects of the receiving environment so that they can be logically managed /mitigated for by the responsible role players at the appropriate time.

The receiving environment referred to as "environmental attributes" or "aspects" in Appendix 1 of the EIA Regulations, 2014 as amended, includes:

(1) Legal System, (2) Terrestrial fauna, (3) Terrestrial flora, (4) Aquatic fauna, (5) Aquatic flora, (6) Soil and Rock, (7) Ground and Surface Water, (8) Atmosphere, (9) Terrestrial and Avian ecosystem, (10) Aquatic ecosystem, (11) Economical, (12) Social, (13) Property, (14) Land use, (15) Health and Safety, (16) Security, (17) Public services, (18) Visual aesthetics and (19) Heritage and Culture.

Refer to: **Appendix D Specialists Studies, Appendix F Impact Assessments and Appendix G EMPr.**

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
Constitution of the Republic of South Africa (Act No. 108 of 1996)	It allows the environmental rights of all South African citizens to be upheld through the implementation of all types of projects and ensure due legal process and stakeholder engagement where every individual has the right to comment on the project throughout its various phases and processes.	National	1996
National Environmental Management Act (NEMA) (Act No. 107 of 1998) including amended EIA Regulations, 2014 published in Government Notice No. R. 324, R. 325, R. 327 and R. 328 in Government Gazette No. 40772 dated 07 April 2017 and Government Notice No. 599 in Government Gazette No. 43358 dated 29 May 2020.	The project development and authorisation process will align with the processes, principles and requirements of NEMA including but not limited to a full public participation process and BAR process as the vehicle to environmental authorisation for the listed activities that have been triggered. Central to BAR is the Impact Assessment process which will endeavour to reduce principal impacts by ensuring suitable footprint selection to areas that have the lowest sensitivity with the lowest concomitant loss of and impact to biodiversity and ecosystem function. The development of an Environmental Management Programme (EMPr) will mitigate/management activities throughout the project cycle likely to cause impacts to the receiving environment.	National	1998
National Environmental Management: Air Quality Act	The access road is going to include the various dust	National	2004

(Act 39 of 2004) including the dust control regulations	generating activities, the most significant of which will be haulage of material for road upgrades and vehicle movement along unsurfaced roads and tracks. These activities will likely result in dust emissions, which need to comply with thresholds stipulated in the National Dust Control Regulations (GG No. 36974, GN No. R. 827, 1 November 2013). Effective management of dust emissions will be required including dust suppression, which will be assessed and mitigated and included in the EMPr. Further an Air Quality Impact Assessment has been undertaken.		
National Environmental Management: Waste Act (NEMWA) (Act No. 59 of 2008)	The project will implement the waste hierarchy principles that the Waste Act introduces, to minimise and reduce waste created from the project, whilst encouraging the recycling and reuse of any suitable waste generated to prevent increased disposal at local landfills.	National	2008
National Environmental Management: Biodiversity Act (NEMBA) (Act No. 10 of 2004)	The BAR process, including the appointment of a SACNASP registered ecologist, will involve the identification, protection and management of species, ecosystems and areas of high biodiversity value. This includes the implementation of the threatened or protected species regulations and associated lists of species that are threatened or protected respectively. Furthermore, the alien and invasive species regulations published under NEM:BA will also be considered in the management measures stipulated in the EMPr.	National	2004
National Environmental Management Protected Areas Act (NEMPAA) (Act No. 57 of 2003)	According to the National Protected Area Expansion Strategy (NPAES), there are no areas within the study area that have been identified as priority areas for inclusion in future protected areas. The study area is therefore outside the NPAES focus area.	National	2003

National Forest Act (NFA) (Act No. 84 of 1998)	If the proposed development affects a protected tree listed in GN 1935 of 25 March 2022 then these trees should be avoided and left in situ as far as possible, or for which a permit may be required for translocation, from the Department of Agriculture.	National	1998
National Veld and Forest Fire Act (Act 101 of 1998)	The proposed project will be constructed on an area of natural veld, which will require the annual implementation of effective fire breaks and management. While there is currently no established Fire Protection Association (FPA) in the area, it is currently being discussed and formulated amongst the community.	National	1998
National Heritage Resources Act (NWA) (Act No. 25 of 1999)	A Cultural Heritage Impact Assessment and a Palaeontological Impact Assessment has been undertaken to identify and assess any potential impact on heritage resources. Ngwao- Boswa Ya Kapa Bokoni and the SAHRA is being consulted during the BAR phase and invited to provide comment on the proposed project. The heritage specialist and palaeontological specialist reports compiled for the proposed development have been uploaded into the project folder created on the South African Heritage Resources Information System (SAHRIS) for the proposed project. SAHRIS case number is 20237.	National	1999
National Water Act (NWA) (Act No. 36 of 1998)	The project will require the registration of water uses for: Section 21 (a) abstraction of groundwater; Section 21 (b) storing of groundwater; Section 21 (c) for impeding or diverting a watercourse. Section 21(g) for disposing of waste in a manner which may detrimentally impact on a water resource; and Section 21 (i) for the altering of the beds, banks of a watercourse; under a Water Use License Application (WULA).	National	1998

Water Services Act (Act 108 of 1997)	Section 6 of the Water Services Act, 1997 (Act No. 108 of 1997) reads, *"6. Access to water services through nominated water services provider (1) Subject to subsection (2), no person may use water services from a source other than a water services provider nominated by the water services authority having jurisdiction in the area in question, without the approval of that water services authority."* Section 7 of the Water Services Act, 1997 (Act No. 108 of 1997) reads,*"7. Industrial use of water (1) Subject to subsection (3), no person may obtain water for industrial use from any source other than the distribution system of a water services provider nominated by the water services authority having jurisdiction in the area in question, without the approval of that water services authority."* A written approval is required from the Municipality which explicitly gives permission to SAE to supply water for sanitation services and industrial use under Sections 6 and 7 of the Water Services Act, 1997. This does not fall within the scope of this project as permission will be sought for the use of the Cluster 1 boreholes through that project.	National	1997
Astronomy Geographic Advantage Act (AGA) (Act No. 21 of 2007)	The site area does not fall within an Astronomy Advantage Area (AAA) under the Astronomy Geographic Advantage (AGA) Act (Act No. 21 of 2007). The letter from SARAO dated 15 March 2023 states "SARAO has undertaken a high-level impact assessment based on the information provided for the access road located at central coordinates 30°51'59.13"S 24°18'21.29"E. It was determined that the project represents a low risk of interference to the nearest SKA radio telescope with a compliance surplus of 66.87	National	2007

	dBm/Hz. As such, we do not have any objection to the proposed development." (**Appendix E6**)		
Civil Aviation Act (Act No. 13 of 2009)	The DEA Screening Tool Report identified Civil Aviation as having low sensitivity for the proposed access road. Nonetheless. ATNS and SACAA have been added as an Interested and Affected Party. They will be informed of the proposed Project, and comment will be sought from these authorities as applicable.	National	2009
Conservation of Agricultural Resources Act (CARA, Act 43 of 1983). Government Gazette (GG) No. 8673, Government Notice (GN) No. 883, dated 27 April 1983; and subsequent regulations	Regulation 2 of the CARA Regulations (1984) reads, *"2. Cultivation of virgin soil (1) Except on authority of a written permission by the executive officer, no land user shall cultivate any virgin soil: Provided that such authority shall not be required in respect of virgin land for which an approval has been granted in terms of section 4A of the Forest Act, 1972 (Act 68 of 1972).* *(2) An application for a permission referred to in subregulation (1) shall be made on a form obtainable from an extension office for this purpose.* *(3) Such application form shall be completed by the land user of the farm unit on which such virgin soil is situated and shall be lodged at the extension office for the area within which the farm unit concerned is situated at least three months prior to the intended date of cultivation."* Regulation 8 of the CARA Regulations (1984) reads, *"8. Regulating of the flow pattern of run-off water (1) Subject to the provisions of the Water Act, 1956 (Act 54 of 1956), no land user shall in any manner whatsoever divert any run-off water from a water course on his farm unit to any other water course, except on authority of a written permission by the executive officer."* Regulation 7 of the CARA Regulations (1984) reads, "7.	National	1983

	Utilisation and protection of vleis, marshes, water sponges and water courses (1) Subject to the provisions of the Water Act, *1956 (Act 54 of 1956), and subregulation (2) of this regulation, no land user shall utilise the vegetation in a vlei, marsh or water sponge or within the flood area of a water course or within 10 metres horizontally outside such flood area in a manner that causes or may cause the deterioration of or damage to the natural agricultural resources. (3) Except on authority of a written permission by the executive officer, no land user shall-* *(a) drain or cultivate any vlei, marsh or water sponge or a portion thereof on his farm unit; or* *(b) cultivate any land on his farm unit within the flood area of a water course or within 10 metres horizontally outside the flood area of a water course."*		
Environmental Conservation Act (Act 73 of 1989)	The Environmental Conservation Act (ECA, Act 73 of 1989) published noise control regulations in terms of section 25 of ECA in Government Notice R154 in Government Gazette 13717 which have been repealed in Gauteng by GN 5479/PG 75/19990820, Free State by GN 24/PG 35/19980424; and Western Cape by RN 627/PG 5309/19981120. The main aspect of noise control regulations is that you may not exceed the prevailing ambient noise levels, above which a noise disturbance is created. The project will need to undertake construction activities in a noise sensitive manner so as not to create nuisance or disturbing noise which may affect any sensitive receptors including surrounding land users and faunal species. Further, a Noise Impact Study has been undertaken.	National	1989
Mineral and Petroleum Resources Development Act (MPRDA) (Act No. 28 of 2002)	Section 53(1) of the MPRDA provides that any person who intends to use the surface of any land in any way that may be	National	2002

	contrary to any object of the MPRDA, or which is likely to impede any such object, must apply to the Minister of Mineral Resources (the Minister) for approval. Section 53 of the MPRDA provides a mechanism for ensuring that, inter alia, the mining of mineral resources is not detrimentally affected through the use of the surface of land and which may, for example, result in the sterilisation of a mineral resource. A Section 53 application has been lodged on 21 February 2023 (ref no. NC30/5/4/2/11505SU). Road material or aggregate will be mined locally from existing borrow pits and/or purchased from a licensed commercial source. As long as the applicant has a legal agreement with the landowner, then they can use a borrow pit on the land they lease for improving any section of road that intersects that same property. As far as the remaining sections of road are concerned, they will either need to apply for a mining permit or purchase the aggregate from a licensed commercial source.		
National Energy Act, 2008	The project is part of international and national initiatives to increase generation of renewable energy and the Act identifies the need for implementing environmental management within the planning of such projects.	National	2008
Occupational Health and Safety Act (Act No. 85 of 1993)	Construction staff will have to comply with the provisions as stated in the OHSA.	National	1993
Promotion of Access to Information Act (Act 2 of 2000)	All potential and Interested & Affected Parties (I&APs) including Competent and Commenting Authorities will be consulted with through all phases and processed relating to application for environmental & water use authorisation.	National	2000
Protection of Personal Information Act (Act 4 of 2013)	Section 18(1) of POPIA requires that if personal information is collected, the responsible party must take reasonably practicable	National	2013

	steps to ensure that the data subject is aware of, amongst other things, the information being collected, the name and address of the responsible party (in this case the EAP and applicant), the purpose for which the information is collected, whether or not the supply of the information by the data subject is voluntary or mandatory, the consequence of the failure to provide the required information, further information such as the recipient of the information, as well as the existence of the right to object to the processing of the personal information. It is therefore necessary that the relevant information be communicated by the EAPs to the commenting parties (DFFE communication following IAIAsa event).		
Integrated Energy Plan (2003)	The project has the potential to help achieve the national renewable energy targets by providing access to an approved 300MW Solar PV facility.	National	2003
National Development Plan 2030	The NDP refers to the need to produce sufficient energy to support industry at competitive prices and ensure access for poor households, while reducing carbon emissions per unit of power by about one-third. In this regard the infrastructure is not just necessary for faster economic growth and higher employment. The proposed access will contribute to this by providing access to an approved Solar PV facility.	National	2012
Integrated Resource Plan 2010 – 2030	The project has the potential to help achieve the national renewable energy targets by providing access to an approved Solar PV facility.	National	2011
Northern Cape Roads Ordinance (Act No.19 of 1976)	Consent may be necessary from the Northern Cape Department of Roads and Public Works under the Northern Cape Roads Ordinance, 19 of 1976 for the upgraded district access road, including a formal wayleave.	Provincial	1976

Northern Cape Nature Conservation Act (Act No. 9 of 2009)	The proposed project has the potential to create opportunities that promote private sector investment and the development of SMMEs in the Northern Cape. The proposed project will contribute significantly to sustainable development objectives and targets within the District.	Provincial	2009
Northern Cape Strategic Plan (2020-2025)	The successful authorisation and implementation of this Solar PV project is a preferred technology identified for the northern cape aligning with the key development priorities identified for the province.	Provincial	2020
Northern Cape Climate Response Strategy	The renewable energy sector, including solar and wind energy (but also biofuels and energy from waste), is explicitly identified as an important element of the Provincial Climate Change Response Strategy.	Provincial	2011
Northern Cape Provincial Spatial Development Framework (2013 - 2018)	The project aligns with many aspects of the SDF in terms of spatial planning objectives. The access road will contribute to the increased renewable energy objective for the district area and province, while maintain the agricultural potential of the affected landowner, mitigating climate change and not contributing to unsustainable land and water use practices. Further, the road upgrade will be a positive impact to local farmers and the public utilizing the section of the public road which will be upgraded and maintained.	Provincial	2013
Pixley ka Seme District Municipality Integrated Development Plan (IDP) (2022-2027)	This project will assist in attaining several of the IDP objectives including increased renewable generation within the district, albeit for private offtake agreements, provision of employment, especially during the construction phase and an improved pubic road.	District	2022
Pixley ka Seme District Renewable Energy Hub	The concept of the Renewable Energy Hub would require projects such as this access road to an approved Solar PV plant	District	2010

	located in the Hub to be developed and help reduce South Africa's reliance on fossil fuels.		
Pixley ka Seme District Climate Change Response Plan	The renewable energy sector, including solar and wind energy (but also biofuels and energy from waste), is explicitly identified as an important element of the District Climate Change Response Plan.	District	2016
Emthanjeni Local Municipality IDP 2021/2022	An access road to an approved renewable energy project within the Local Municipality (LM) is seen as a key deliverable to the economic growth of the area.	Local	2021
Emthanjeni Municipality Spatial Development Framework (SDF) 2007	The project aligns with many aspects of the SDF in terms of spatial planning objectives. The access road will contribute to the increased renewable energy objective for the municipal area, while maintain the agricultural potential of the affected landowner, mitigating climate change and not contributing to unsustainable land and water use practices. Further, the road upgrade will be a positive impact to local farmers and the public utilizing the section of the public road which will be upgraded and maintained.	Local	2007

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?	UNKNOWN

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

It is anticipated that both general and hazardous waste types will be generated during construction (**Table 5**). Except for domestic wastewater (**1,8 m³/day**), volumes cannot be known. The principal sanitation system during construction shall either be containerised toilets connected to a conservancy tank and/or a sewerage treatment package plant, as well as chemical toilets.

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

Table 5. Identification of construction waste types and proposed management methods during construction.

Source	Waste type	Proposed Control Method(s)
Concrete mixing	Rubble (Inert)	Solid concrete rubble will be re-used as fill material and/or disposed at the De Aar licensed landfill site, unless capacity

		constraints necessitate the use of an alternative licensed landfill site(s).
	Wet Slurry (Hazardous) Dry Slurry (General waste)	Slurry from the concrete mixing will be recycled in concrete production or once hardened, reused as fill material and/or disposed at the De Aar licensed landfill site, unless capacity constraints necessitate the use of an alternative licensed landfill site(s).
	Residual wastewater (Hazardous)	Reuse residual wastewater by replacing borehole water for making new mortar or concrete, and/or allowed to evaporate.
Construction plant	Used motor oil (Hazardous)	Collected by a registered collector or mechanic (during emergency repairs) for recycling.
	Contaminated soil (Hazardous)	Bioremediation and/or collected for disposal at a licensed hazardous waste landfill site.
Staff Welfare area	Organic (food) waste (General waste)	Collected for disposal at the De Aar licensed landfill site, unless capacity constraints necessitate the use of an alternative licensed landfill site(s).
	Food/drink packaging (General waste)	Separated for re-use and/or recycling, and/or collected for disposal at the De Aar licensed landfill site, unless capacity constraints necessitate the use of an alternative licensed landfill site(s).
Packaging	Cardboard, plastic, wood, cement bags (Inert)	Collected for re-use and/or recycling.
Unsuitable road material or aggregate	Spoil (inert)	Reused as fill material, during rehabilitation of the site and/or removed from site to a suitable and approved location by the contractor under his contract.

Will the activity produce solid waste during its operational phase?

~~YES~~	NO

If YES, what estimated quantity will be produced per month?

0 m^3

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

Refer to **Table 5** above.

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

Refer to **Table 5** above.

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

Refer to **Table 5** above.

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?	m^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.

The sanitation system adopted by the contractor(s) at the construction camp will be a containerised system whereby domestic wastewater will be stored in a conservancy tank(s) for safe disposal at the Wastewater Treatment Works described below and/or a package plant for the on-site disposal, using a septic tank-soakaway system. Domestic wastewater from chemical toilets placed at the workfront will also be disposed of at the below Wastewater Treatment Works. Alternative licensed, e.g., private, Wastewater Treatment Works may also be utilised if available.

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:	Municipal Wastewater Treatment Works (WWTW). Alternative licensed, e.g., private, Wastewater Treatment Works may also be utilised if available.		
Contact person:	Manager: Technical Services Jayson Barth		
Postal address:			
Postal code:	7000		
Telephone:	087 292 7466	**Cell:**	078 104 9502
E-mail:	jbarth@emthanjeni.co.za	**Fax:**	

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

- Slurry from the concrete mixing will be recycled in concrete production or once hardened, reused as fill material and/or disposed at the De Aar licensed landfill site, unless capacity constraints necessitate the use of an alternative licensed landfill site(s). Reuse residual wastewater to supplement/replace borehole water for making new mortar or concrete, and/or wetting roads.

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 main source of particulate emissions will be entrainment of dust by vehicles on the unpaved Access Road. Some particulates will be generated by other construction equipment and activities, such as stockpiles, the concrete batching plant and stone crushing for aggregate for road material, but particulate emission from these activities is expected to be relatively low and was not estimated.

Average daily traffic (ADT) is taken from the traffic impact assessment for a similar, but 400 MW project in the same area. To estimate vehicle entrained particulate emissions from the Access Road it is assumed that the characteristics of the road and the ADT are consistent over the entire length of the road. The estimated emissions of TSP and PM_{10} along the access road are in tonnes per annum for the construction, operational and decommissioning phases (**Table 6**).

Table 6. Emissions of TSP and PM_{10} from vehicle entrainment in tonnes/annum for a 100 m length of the Access Road.

	TSP		PM10	
Phase	**Uncontrolled**	**Controlled**	**Uncontrolled**	**Controlled**
Construction & decommissioning	20.20	16.68	7.49	4.77
Operational	5.50	5.01	1.57	1.43
Uncontrolled: No dust control or mitigation measures				
Controlled: Dust control or mitigation by watering once per day				

Dust fallout

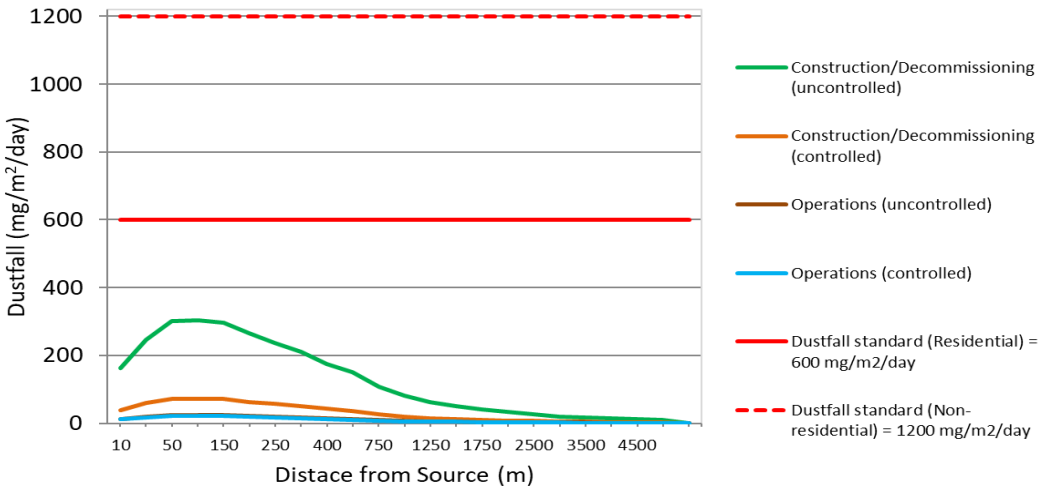


Figure 20. Predicted dust fallout resulting from vehicle entrainment on the Access Road in $mg/m^2/day$ compared with the National Dust Standard.

Although the area is rural and sparsely populated two sensitive receptors should be noted. Receptor 1 is 150 m from the District Road not far from the intersection with the N10, and Receptor 2 is 250 m from the proposed Access Road, being Mr Willem Retief's homestead with farm worker accommodation.

The highest predicted dust fallout rates (302 $mg/m^2/day$) occur during the construction/decommissioning phases when the ADT is highest with no dust control measures and occurs 100 m downwind of the Access Road (**Figure 20**). The maximum predicted dust fallout rate during the operational phase is 23.8 $mg/m^2/day$

without dust control measures. Both are well below the National Dust Standard for non-residential (1 200 mg/m²/da) and residential (600 mg/m²/day) areas.

Annual PM_{10}

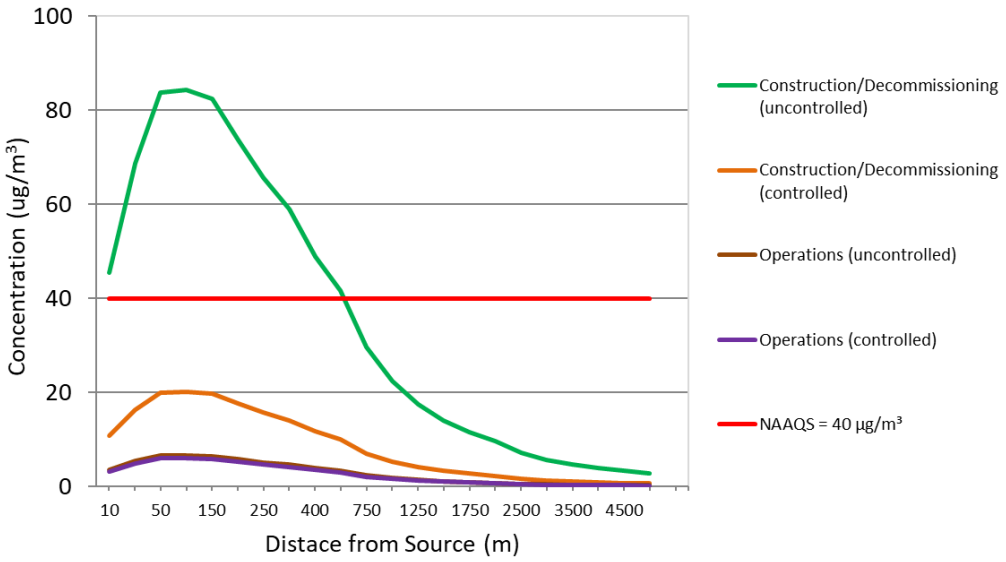


Figure 21. Predicted annual PM_{10} concentrations resulting from vehicle entrainment on the Access Road in µg/m³ compared with the NAAQS.

The highest predicted annual ambient PM_{10} concentrations (84 µg/m³) occur during the construction/decommissioning phases when the ADT is highest with no dust control measures and occurs 100 m downwind of the Access Road (**Figure 21**). It is above the NAAQS of 40 µg/m³ up to 550 m downwind of the Access Road. The predicted annual ambient PM_{10} concentrations for the construction/decommissioning phases are considerably lower when the dust control measures are implemented and are predicted to be below the NAAQS, e.g., spraying the Access Road once a day with water. The maximum predicted concentration for this scenario is 20 µg/m³.

The predicted annual ambient PM_{10} concentrations during the operational phase are low and well below the NAAQS.

24-hour PM_{10}

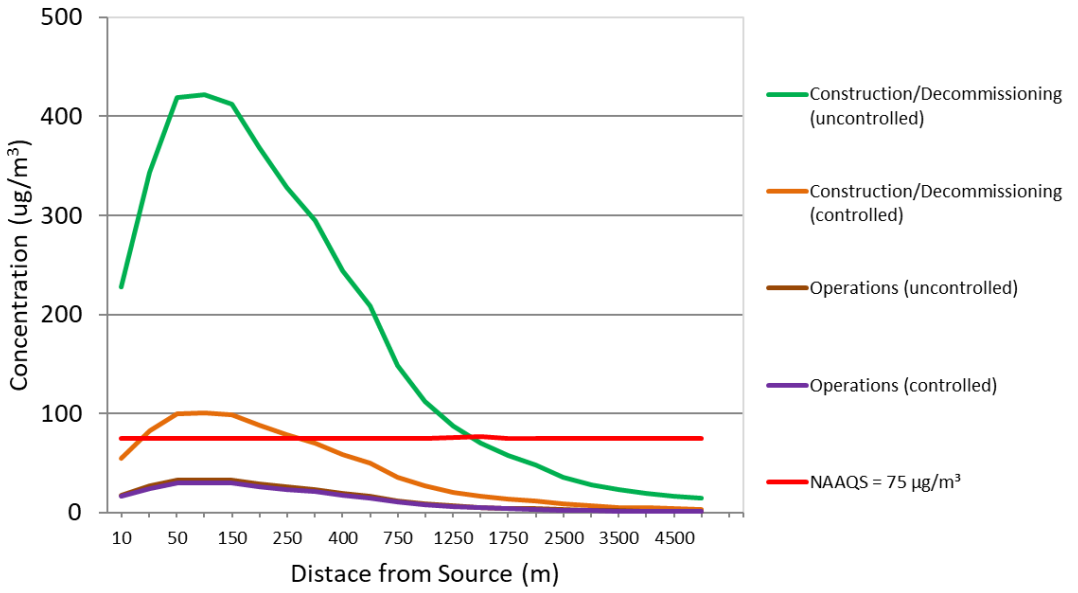


Figure 22. Predicted 24-hour PM_{10} concentrations resulting from vehicle entrainment on the Access Road in µg/m³ compared with the NAAQS.

The maximum predicted 24-hour ambient PM_{10} concentration (421 µg/m³) occurs during construction/decommissioning phase, 100 m downwind of the Access Road (**Figure 22**). It is above the NAAQS of 75 µg/m³ up to 1 500 m downwind of the Access Road. The predicted 24-hour ambient PM_{10} concentration for the construction/decommission phases is considerably lower (101 µg/m³ and occurs 100 m from the Access Road) if the access road is watered once per day but is still above the NAAQS up to 300 m from the Access Road. The maximum predicted concentration for this scenario is.

The predicted 24-hour ambient PM_{10} concentrations during the operational phase are low (well below the NAAQS of 75 µg/m³) with little difference between the uncontrolled and controlled scenarios.

The predicted dust fallout is low and well below the limit value for acceptable dust fallout in non-residential areas. Consequently, the significance of the impact of dust fallout resulting during construction and decommissioning of the Access Road is also low (**Appendix D1 -** *Air Quality Impact Assessment for the Proposed Development of the Sun Central Cluster 300 MW Solar PV Facility between De Aar & Hanover, Emthanjeni Local Municipality, Pixley Ka Seme District Municipality, Northern Cape Province", Version – Final, prepared by Mark Zunckel of uMoya-NILU and dated January 2023 (Report number: uMN192-22).*

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:

The main noise sources within and beyond the boundaries of the Sun Central Cluster 1 300MW Solar PV project are:

- Construction activities during the construction phase of the proposed gravel road;
- Traffic noise which can be continuous and/or intermittent at times.

The noise survey was conducted on 7 and 8 January 2023.

Noise Levels

The reference time intervals can be specified to cover typical human activities and variations in the operation of noise sources and are for daytime between 6h00 to 22h00 and for night-time between 22h00 and 6h00. The study area falls within an (a) to (b) type districts (**Table 7**) because of the type of activities such as main roads, gravel roads, little traffic and major traffic which all have an influence on the prevailing ambient noise level for a specific area.

There is therefore a mixture of activities and higher noise levels as per the above recommended continuous rating levels within i.e., residential, agricultural activities (seasonal) and feeder roads in proximity of each other or to a farmhouse. The ambient noise level will therefore differ throughout the study area, depending on the location and the measuring position in relation to areas with existing noise sources such as roads.

Table 7: Recommended noise levels for different types of districts.

Type of district	Equivalent continuous rating level $L_{Req,T}$ for ambient noise					
	Outdoors			Indoors, with open windows		
	Day-night	Daytime	Night-time	*Day-night*	Daytime	Night-time
a) Rural districts	45	45	35	35	35	25
b) Suburban districts with little road traffic	50	50	40	40	40	30
c) Urban districts	55	55	45	45	45	35
d) Urban districts with some workshops, with business premises and with main roads	60	60	50	50	50	40
e) Central business district	65	65	55	55	55	45
f) Industrial districts	70	70	60	60	60	50

(**Appendix D2** - *Environmental Basic Assessment for the proposed Gravel Road Construction to the approved Phase 1 Project prepared by dBAcoustics dated 21 January 2023.)*

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
		X			

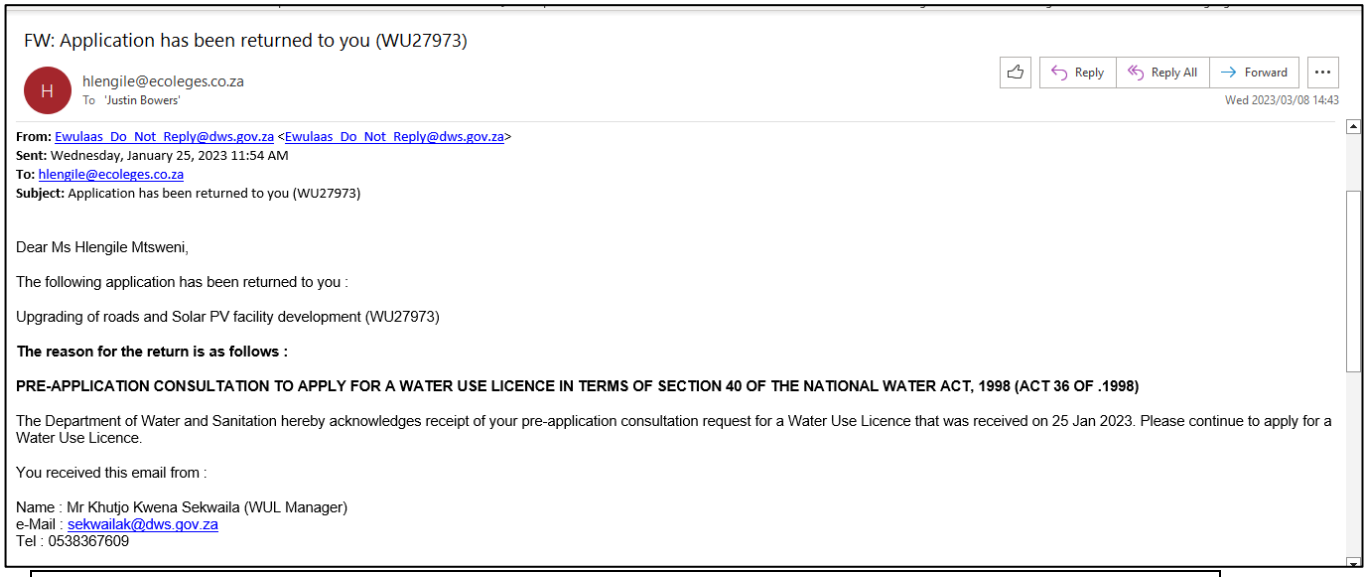
If water is to be extracted from groundwater, river, stream, dam, lake or any other natural feature, please indicate the volume that will be extracted per month:	6.5 million litres
Does the activity require a water use authorisation (general authorisation or water use license) from the Department of Water Affairs?	YES / ~~NO~~

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

Below screenshot of the Email from the Ewulaas system acknowledging the request for a pre-application consultation under reference: WU27973.

14. ENERGY EFFICIENCY

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



FW: Application has been returned to you (WU27973)

H hlengile@ecoleges.co.za
To 'Justin Bowers'

Reply | Reply All | Forward | ...
Wed 2023/03/08 14:43

From: Ewulaas_Do_Not_Reply@dws.gov.za <Ewulaas_Do_Not_Reply@dws.gov.za>
Sent: Wednesday, January 25, 2023 11:54 AM
To: hlengile@ecoleges.co.za
Subject: Application has been returned to you (WU27973)

Dear Ms Hlengile Mtsweni,

The following application has been returned to you :

Upgrading of roads and Solar PV facility development (WU27973)

The reason for the return is as follows :

PRE-APPLICATION CONSULTATION TO APPLY FOR A WATER USE LICENCE IN TERMS OF SECTION 40 OF THE NATIONAL WATER ACT, 1998 (ACT 36 OF .1998)

The Department of Water and Sanitation hereby acknowledges receipt of your pre-application consultation request for a Water Use Licence that was received on 25 Jan 2023. Please continue to apply for a Water Use Licence.

You received this email from :

Name : Mr Khutjo Kwena Sekwaila (WUL Manager)
e-Mail : sekwailak@dws.gov.za
Tel : 0538367609

N/A – road upgrade and construction.
However, the road does provide access to a renewable energy project, that being the Sun Central Cluster 1 (300 MW) Solar PV facility which has been approved.

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

N/A – road upgrade and construction.
However, the road does provide access to a renewable energy project, that being the Sun Central Cluster 1 (300 MW) Solar PV facility which has been approved.

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	Pixley Ka Seme District Municipality	
Local Municipality	Emthanjeni Local Municipality	
Ward Number(s)	6	
Farm name and number	Blaauwbosch Kuilen Outspan No.37 Barends Kuilen No.38 Riet Fountain No.39 Kwanselaars Hoek No.40 Taaibosch Fontein No.41	
Portion number	Remainder of farm Blaauwbosch Kuilen Outspan 37 Portion 1 of farm Blaauwbosch Kuilen Outspan 37 Remainder of Barends Kuilen 38 Portion 1 of farm Riet Fountain 39 Portion 1 of farm Kwanselaars Hoek 40 Portion 4 of farm Taaibosch Fontein 41	
SG Code	Blaauwbosch Kuilen Outspan 37 Remainder	C03000000000003700000
	Blaauwbosch Kuilen Outspan 37 portion 1	C03000000000003700001
	Barends Kuilen 38 Remainder	C03000000000003800000
	Riet Fountain 39 portion 1	C03000000000003900001
	Kwanselaarshoek 40 portion 1	C03000000000004000001
	Taaibosch Fontein 41 portion 4	C03000000000004100004

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:

Agriculture Zone 1

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 S1:

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
	X					

Alternative S2 (if any):

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
	X					

Alternative S3 (if any):

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 both **Alternative S1 (preferred) and Alternative S2:**

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	**X**	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 S1:		**Alternative S2 (if any):**		**Alternative S3 (if any):**	
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

Refer to **Appendix J1** Environmental Attributes for Preferred Alternative (S1) and

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.

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).

Alternative S1 (preferred) and Alternative S2:

Natural veld - good condition[E]	Natural veld with scattered aliens[E] X	Natural veld with heavy alien infestation[E]	Veld dominated by alien species[E]	Gardens
Sport field	Cultivated land	Paved surface	Building or other structure – GRAVEL DISTRICT ROAD AND FARM TRACKS X	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?

Alternative S1 (preferred):

Perennial River	~~YES~~	NO	~~UNSURE~~
Non-Perennial River	YES	~~NO~~	~~UNSURE~~
Permanent Wetland (artificial wetlands at Solar Borehole No.4 and No.5 – **Appendix A** Sensitivity Map of Preferred Route No. 1)	YES	~~NO~~	~~UNSURE~~
Seasonal Wetland (Two seasonal wetlands within proximity to the access road – **Appendix A** Sensitivity Map)	YES	~~NO~~	~~UNSURE~~
Artificial Wetland (artificial wetlands at Solar Borehole No.4 and No.5 – **Appendix A** Sensitivity Map of Preferred Route No.1)	YES	~~NO~~	~~UNSURE~~
Estuarine / Lagoonal wetland	~~YES~~	NO	~~UNSURE~~

Alternative S2:

Perennial River	~~YES~~	NO	~~UNSURE~~
Non-Perennial River	~~YES~~	NO	~~UNSURE~~
Permanent Wetland (within proximity to NFEPA wetlands including dams - Refer to **Appendix A** Sensitivity Map Alternative No.2)	YES	~~NO~~	~~UNSURE~~
Seasonal Wetland (within proximity to NFEPA wetlands including dams - Refer to **Appendix A** Sensitivity Map Alternative No.2)	YES	~~NO~~	~~UNSURE~~
Artificial Wetland (within proximity to NFEPA wetlands including dams - Refer to **Appendix A** Sensitivity Map Alternative No.2)	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.

Alternative S1 (preferred):
Five distinct water resource types were recognised in the project area. Not all water resource types, specifically the alluvial floodplains, are technically a 'watercourse':

1. Brak River drainage system.
2. Large ephemeral tributaries.
3. Smaller ephemeral tributaries.
4. Alluvial floodplains.
    - Alluvial fans.
    - Braided channel: bar and swale topography.
    - Floodplain flats.
5. Headwater drainage lines

1. Brak River and riparian areas
The Brak River and its associated floodplains are relatively wide (ranging from about 30 m to approximately 2000 m) and consists of a main channel with incised banks and the wider floodplain with depression wetlands and secondary channels that are the remnants of old river channels, formed as the river has migrated within the alluvial floodplain. They tend to be classified as watercourses rather than as wetlands as they show very few wetland characteristics in the strictest sense.
The alluvial fans and erosion dongas cover most of the demarcated "floodplain" and due to their function, slope and consistency, these areas will only be briefly inundated with surface water during rainy events and the surface water will be rapidly transported to the low-lying active channel of the system.
The Brak River system consists of a wide braided channel with alluvial bars that are dominated by tall hygrophilic grass, sedges, rushes, and the common reed *Phragmites australis,* while the floodplain consists of low growing shrubs and grasses.

Reeds and tall hygrophilic grass can be found in certain areas in the riverbed which indicates areas of extended surface water accumulation, or a very shallow subsurface water source. On the riverbanks sedges (*Scirpoides*) and rushes (*Juncus*) can be found in a narrow band along the embankment and in some wet patches further away between drainage lines.

2. Larger ephemeral tributaries
Apart from the basic channel that delineates the ephemeral drainage line, different geomorphological and vegetation features are present in the drainage line configuration. The riverbeds are only inundated with water during heavy rain downpours. The "riparian zone" of the larger ephemeral tributaries is between 1 and 5 meters wide, especially where depressions in the system allows for water to form temporary pools or ponds. Patches of sedges are scattered between dwarf karroid scrub and tufted grass on the stream banks.
The larger drainage systems provide important wildlife movement corridors in arid and semi-arid regions because of the near continuous band of riparian or marginal vegetation that small and medium-sized animals can utilize for cover and food. Migrating birds are highly dependent upon riparian and xeroriparian vegetation in arid and semi-arid lands, utilising the denser vegetation structure in an otherwise shrubby environment to perch and rest during migration.
Alluvium deposited in larger drainage lines is usually looser than the soils or colluvium of surrounding uplands, which enhances the potential for exploitation by specialized sand-burrowing species of wildlife, such as lizards, golden moles, meerkat, frogs, many insects, etc.

3. Smaller ephemeral tributaries
All the smaller tributaries in the area are ephemeral and most are discernible only as slightly shallow depressions with slightly clayey soils and no clear associated vegetation, although the vegetation in the drainage line does differ from the terrestrial vegetation. The riparian zone along the smaller drainage lines is not so pronounced as that of the larger systems and can be absent in some areas along the drainage. In areas the drainage lines may erode into weak channels, mostly due to human intervention such as in-stream dams and multiple earthen berms.
Most of the terrestrial areas around these drainage systems in the project area are covered with dwarf karroid scrub and tufted grass but devoid of trees or shrubs. Since this river is an intermittent river, very little trees are

present in the riparian zone. No hydromorphic (wetland soil) or hydrophyte (wetland plant) indicators are expected in these watercourses.
Alluvium deposited in drainage lines is often looser than the soils or colluvium of surrounding uplands, which enhances the potential for exploitation by specialized sand-burrowing species of wildlife, such as lizards, frogs, golden moles, many insects, etc.

4. Alluvial floodplains and fans
Alluvial floodplains, washes and fans are the dominant feature of the erodible and very dry Karoo landscape, compared with the fewer active channels and more prominent tributaries. These Floodplain systems are responsible for a large portion of basin ground-water recharge in arid and semi-arid regions through channel infiltration and transmission losses.
The alluvial fans and erosion-dongas cover most of the demarcated "floodplain" and due to their function, slope and consistency, these areas will only be briefly inundated with surface water during rainy events and the surface water will be rapidly transported to the low-lying active channel of the system.
Surface water may flow along a particular channel in one year but owing to little topographic definition or gradient across the landscape, a parallel channel may be eroded the following year, leading to a network of channels. Some ecologists call these features "dendritic drainage systems", while others refer to them as washes or floodplains. They tend to be classified as watercourses rather than as wetlands as they show very few wetland characteristics in the strictest sense.
Alluvial fans are typically created when valleys widen suddenly or stream flows from a narrow, relatively steep valley onto a wider, gradually sloping valley floor or flatter plain. Rapid deposition of the sediment load carried by surface water, gives rise to these alluvial fans. Some alluvial fans (or portions of alluvial fans) have distinct channels, while others may lose this distinction as water and sediment disperse and settle relatively evenly across the fan.
These alluvial fans are usually bare soil flats or conduits. However, in higher lying portions dwarf karroid scrub and tufted grass will colonise on ridges. The ecological functioning and importance of these alluvial features are not known.

5. Headwater drainage lines
Headwater drainage lines that only carry storm flow are located at the source of drainage line networks. Headwater drainage lines have discontinuous or swale-like channels. These drainage lines have riparian vegetation that consists of a relatively sparse low shrub layer.
Headwater drainage lines, which include first and second order drainage lines and ephemeral channels, are also regarded as watercourses, even though they may have discontinuous or swale-like channels. One of the key differences between headwater drainage lines and seeps, is that seeps are often fed primarily by the expression of groundwater at the ground surface whereas headwater drainage lines are typically fed by precipitation alone. It should also be noted that systems that are not permanently or periodically inundated are not considered true wetlands, e.g., those associated with the drainage lines.
Headwater drainage lines differ from downstream reaches due to a closer linkage with hillslope processes, higher temporal, and spatial variation, effectively forming part of a continuum between hillslopes and stream channels (Gomi et al. 2002). Headwaters of a drainage system are important sources of sediment, water, nutrients, seeds, and organic matter for the downstream systems (Gomi et al., 2002). Transitional channels (temporary or ephemeral channels) can have defined channel banks, as well as discontinuous channel segments along their length, and emerge out of zero-order basin. They form the headmost definable portion of the drainage line network (first-order channels) and can have either ephemeral or intermittent flow.

6. Wetlands
There are no significant wetlands present in the three main study areas. The most conspicuous wetlands are small artificial permanent wetlands around watering points and borrow pits. There is no major flood danger inside the study areas except for a small southern portion of Alternative 2 that overlaps with the edge of the floodplain. However, the adjacent flood plains are characterised by severe flooding during some rainy seasons

Refer **Appendix D3** – Aquatic Specialist studies.

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:

Alternative S1 (preferred) and Alternative S2:

Natural area	Dam or reservoir **X**	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[A]	Church	Agriculture **X**
Retail commercial & warehousing	Old age home	River, stream or wetland **X**
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 **X**
Quarry, sand or borrow pit **X**	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:

N/A

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:

N/A

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:

N/A

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

Alternative S1 (preferred) and Alternative S2:

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 (Alternative S2)	~~NO~~
Existing offset area associated with a previous Environmental Authorisation?	~~YES~~	NO
Buffer area of the SKA?	~~YES~~	NO

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
	~~UNSURE~~	
N/A		

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:

Alternative S1 (preferred):

Palaeontology

Several previous combined desktop and field-based studies within the broader Soventix solar facility project area between De Aar and Hanover, including the Sun Central Cluster 1 project area, indicate that this region is generally of LOW palaeosensitivity, despite being underlain by Permian continental sediments of the Lower Beaufort Group (Almond 2017, 2021, 2022). This includes the small, combined footprints of the proposed additional infrastructure covered by the current Basic Assessment and Part 2 Amendment processes (access road, LILO grid connection, concrete batching plant, water pipeline *etc.*), portions of which are underlain by low-sensitivity Late Caenozoic alluvium. The construction phase of the proposed additional infrastructure is very unlikely to cause significant negative impacts on local palaeontological heritage resources. **There are therefore no objections on palaeontological heritage grounds to authorise the proposed additional infrastructure.** If any substantial fossil remains (*e.g.* vertebrate bones, teeth) are exposed by surface clearance or excavations during the construction phase of the development, the Chance Fossils Finds Protocol outlined in Appendix 1 to this report should be fully implemented. These recommendations should be included within the EMPrs for the Sun Central Cluster 1 solar PV facility and associated infrastructure developments *(**Appendix D5** - Palaeontological Heritage Comment: Access Road Basic Assessment and Transmission Line Part 2 Amendment for the Sun Central Cluster 1 between De Aar & Hanover, Pixley Ka Seme District Municipality, Northern Cape Province prepared by John E. Almond PhD (Cantab.) Of Natura Viva cc dated January 2023).*

Heritage

Sites Recorded in 2017

Site 18 (access road) – more than 20m from road work area

Site 18 is a scatter of low-density stone tools, as well as some ostrich eggshell fragments. The site was given a Medium Heritage Significance rating, and it was recommended that the site be mitigated before destruction. This site is included under SAHRA Permit for Phase 2 Mitigation.
GPS Coordinates: S30.89070 E24.31404.

Sites 19, 20 & 21 (access road) – more than 20m from road work area

All three these sites are represented by stone-packed enclosures and were identified as redoubts associated with the Anglo-Boer War. Cultural material in the form of cartridges, porcelains, glass and metal objects were recorded in association with these sites.
The sites were given a Medium Significance Rating and it was recommended that they should be recorded in detail before destruction. The sites are on the banks of watercourse and development exclusion zone and a 30m no-go buffer zone was therefore recommended. These sites are also included under a SAHRA Permit for archaeological mitigation.
GPS Coordinates: S30.89076 E24.31306 (19); S30.89010 E24.31322 (20) & S30.88885 E24.31347 (21).

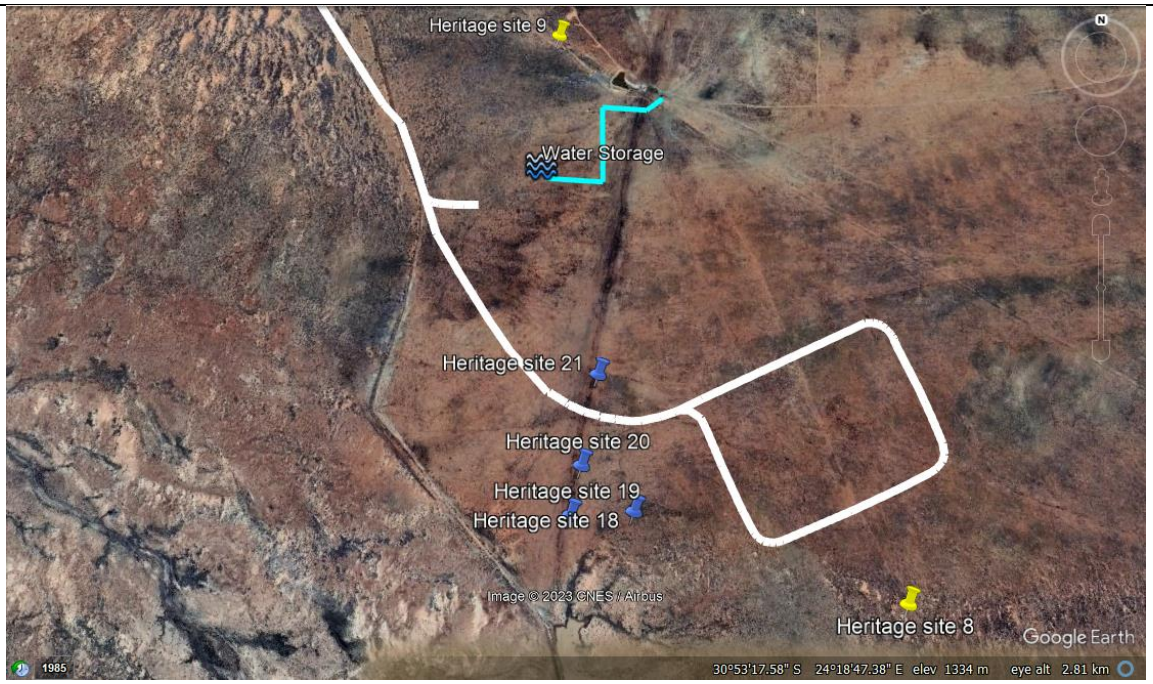


Figure 23: Location of Sites 18 – 21 relative to the proposed new road access to the Main Transmission Station.

Site 36 (near to access road) – more than 20m from road work area

Site 36 is represented by 3 shallow "excavations", circular in shape, into the bedrock. These features were identified as possible dried-up dams or water reservoirs at the time. The site was given a Medium Heritage Significance Rating. No further mitigation measures were recommended in the 2017 report.
GPS Coordinates: S30.85412 E24.27465.

Sites Recorded in 2021

Site 1 (not impacted on by access road and water pipelines)

Site 1 is rocky outcrop with a number of rocks containing possible engravings in the form of various striations and lines. Although the age of the engravings could not be determined without a doubt, it could be related to proto-historic pastoralists that moved through the area. Stone Age material (tools/flakes) was also identified in the general proximity of the site. Should the site be negatively impacted by the proposed development activities it was recommended that Phase 2 Archaeological mitigation work be undertaken. This will entail the detailed mapping, photographic recording and drawing of the site and the individual engravings (through detailed rubbings) to ensure the capturing of the information contained on the site before destruction. The site was given a Medium to High Heritage Significance Rating.
GPS Coordinates: S30 51 32.10 E24 18 43.00.

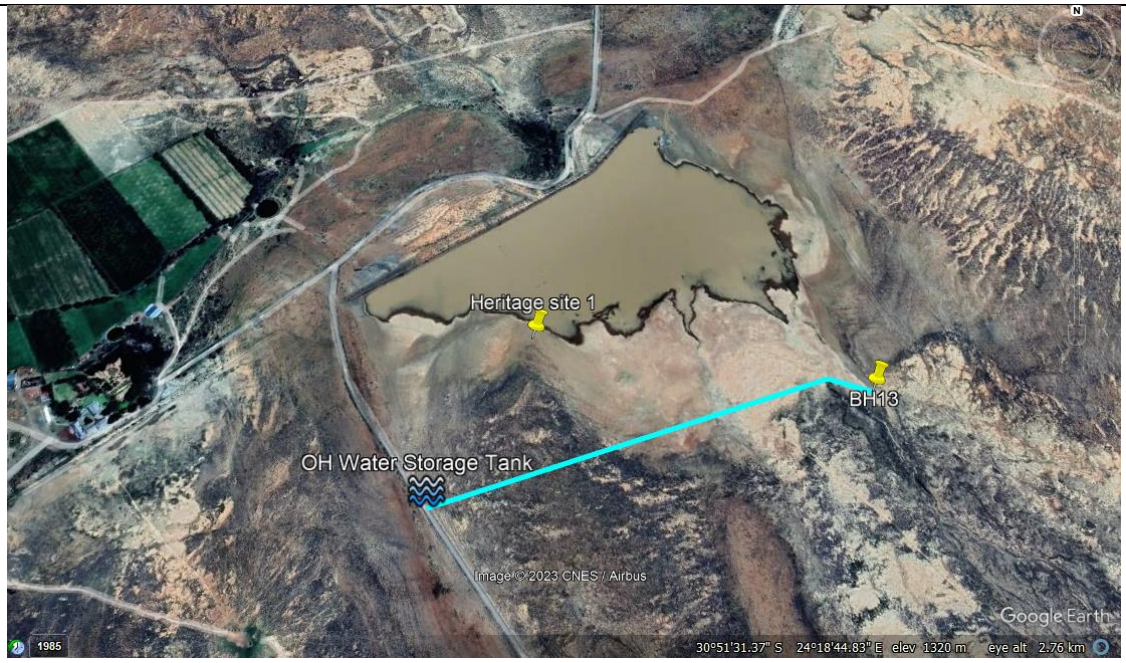


Figure 24: Site 1 is located approximately 230 m away from the water pipeline between Borehole 13 and the OH water storage tank.

Figure 25: View of Site 1 with rock engravings.

Sites 2, 8, 9 & 10 (not impacted on by access road and water pipelines)

These sites were all open-air surface scatters with differing densities of material (flakes, more formal tools such as blades and scrapers, hammer stones) on them. These artifacts and sites date to between the MSA and LSA and is similar to those found in other areas during the 2017 assessments and in other studies by archaeologists in the larger geographical area. Although only 10 sites were identified, there could potentially be many more

located in the area. and the focus was therefore on more open patches of ground, erosion dongas and pans. Some of the sites were located close to and around the low hill that runs through a section of the study area and around rocky outcrops. Although these sites and finds are open-air surface locations and not in a primary context, it was believed that they would contribute to our knowledge of the Stone Age of the specific and larger geographical area. The sites were given a Medium to High Heritage Significance Rating. If the sites can't be avoided by the development activities and need to be destroyed as a result then the following mitigation measures were recommended prior to development commencing:

- Mapping of surface sites to determine their extents.
- Surface collection of material to obtain a representative sample of Stone Age material and types to determine the age of the material and sites.

GPS Coordinates: S30 51 30.70 E24 18 46.50 (2); S30 53 30.60 E24 19 05.40 (8); S30 53 00.90 E24 18 45.90 (9) & S30 52 58.50 E24 19 01.80 (10).

Figure 26: Some of the material from Site 8. These are typical of the Stone Age scatters at most of the known sites located in the area.

Site 11 (not impacted on by access road and water pipelines)

Site 11 contains the remains of what seemed to be a collapsed stone-walled enclosure close to a low hill in the area, situated on a natural rocky terrace, as well as a smaller section of stone walling. A grinding hollow was also recorded in close proximity. Although the age and function of these features could not be determined without a doubt at the time, it is likely related to proto-historical pastoralists and could represent the remnants of a small camp. Although the site was not completely intact, these types of sites are fairly scarce and slowly disappearing from the landscape as a result of various factors such as developments. It was therefore given a Medium to High Significance rating from a Cultural Heritage perspective. It was recommended that the site should be avoided if possible and be preserved in situ & included in a Heritage Management Plan. If the proposed development actions can't avoid the site the following was recommended:

- Detailed mapping and drawing of the site and its features
- Limited archaeological excavations on the site before destruction.

GPS Coordinates: S30 52 39.10 E24 18 42.60.

Figure 27: Collapsed stone-walled enclosure on Site 11.

Recommendations

Although none of the sites discussed above will be directly impacted by the additional activities (access road, MTS, transmission lines and boreholes), it is clear from this that there are a range of archaeological and recent historical sites, features and material present in the study and development area. It is highly likely that many similar sites will be present in the areas that have not been physically assessed as yet. This will include to a large degree open-air Stone Age sites with varying densities of tool scatters.
Although there is therefore a likelihood of negative impacts on cultural heritage sites through the development of the access roads, transmission lines and MTS, the fact that there are already archaeological mitigation measures ongoing on similar sites in the area, will minimize the impacts of the Solar PV developments on the archaeological and historical heritage of the area.
It is however recommended that a Chance Find Procedure be developed and implemented for the Sun Central Cluster 1 300MW Solar PV Facility Additional Activities.

Further to the above, during an early December 2022 field assessment by representatives of Ecoleges to the study and development area, some archaeological material and several recent historical features and associated cultural material were superficially identified by them. The information and photographic record were provided to APAC cc. These finds and sites were located close to and in the "reserve" of the Main Access Road off the N10 to de Aar towards Burgerville. Based on this the following conclusions and recommendations can be made:

- The remains of recent historical farming-related settlement are located in the area close to and around the access road. This includes stone-walled enclosures (kraals) and homesteads. Cultural material associated with these remains were found that included fragments of decorated ceramics dating the sites to between the late 19th and early 20th centuries. These sites are given a Medium to High Heritage Significance Rating and should they be impacted directly be the development activities should be mitigated through archaeological measures that will include detailed mapping and drawing, as well as limited excavations. If they can be avoided, then these sites should be included in the Cultural Heritage Management Plan for the Solar PV development.

GPS Coordinates for finds made by Ecoleges: S30 51 25.58 E24 14 33.51 (stone-walled enclosure/kraal; S30 51 25.58 E24 14 33.51 (homestead remains).

Figure 28: View of stone-walled enclosure/kraal next to the Main Access Road looking south (courtesy Ecoleges).

Figure 29: Homestead remains next to the Main Access Road looking north (courtesy Ecoleges).

- Stone Age material, similar to those found on other sites during previous assessments, also occur here. It is envisaged that more of these scatters of material (individual and denser concentrations of tools) will be present in the area as well. These finds and sites will be given a Low to Medium Heritage Significance rating. As many similar sites in the area are already forming the focus of detailed archaeological mitigation work, no further mitigation is required.

  S30 51 25.73 E24 14 33.78 (decorated ceramics) and S30 57 22.08 E24 21 05.70 (stone tool).

The impact of the proposed development on the recorded and known cultural heritage sites in the area, as well as those unknown sites likely to occur here, is therefore deemed as **Moderate** based on the Impact Assessment criteria used. There is also always a possibility of sites, features and material being missed as a result of various factors such as vegetation cover hampering visibility on the ground, as well as the often-subterranean nature of cultural heritage resources (including low stone-packed or unmarked graves). These factors need to be taken into consideration and it is therefore recommended that a Chance Finds Protocol be drafted and implemented for the Sun Central Cluster 1(300 MW) Solar PV Facility additional activities.

From a Cultural Heritage point of view it can be said that the proposed additional activities associated with the Sun Central Cluster 1 300MW Solar PV Facility on portions of various farms, between De Aar & Hanover, Emthanjeni Local Municipality, Pixley Ka Seme District Municipality, Northern Cape Province, South Africa should be allowed to continue once the recommended mitigation measures related to the archaeological & historical sites and features have been implemented (**Appendix D4** - *A Heritage Scoping Report Impact Assessment related to the Development of the Sun Central Cluster 1, 300 MW, Solar PV Facility additional activities on various Farm Portions between De Aar & Hanover, Emthanjeni Local Municipality, Pixley Ka Seme District Municipality, Northern Cape Province, South Africa (Report: APAC023/12) prepared by APelser Archaeological Consulting cc (APAC) dated February 2023).*

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.

Alternative S1 (preferred) and Alternative S2:

Level of unemployment:

Ward 6 has the highest proportion of people aged between 15 – 65 years that are employed (**Figure 30**). Just over half of the people who are employed in Ward 6, are employed in the formal sector (**Figure 31**). This is much lower than on local or district level. About a quarter of the employed work in the informal sector, which is proportionately higher than on local or district level.

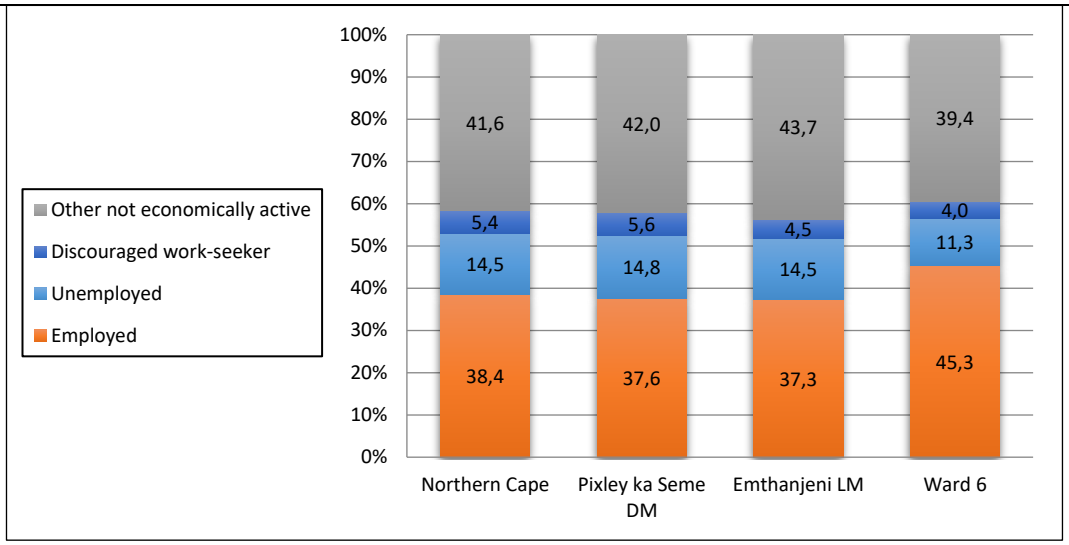


Figure 30: *Labour status (those aged between 15 - 65 years, shown in percentage, source: Census 2011)*

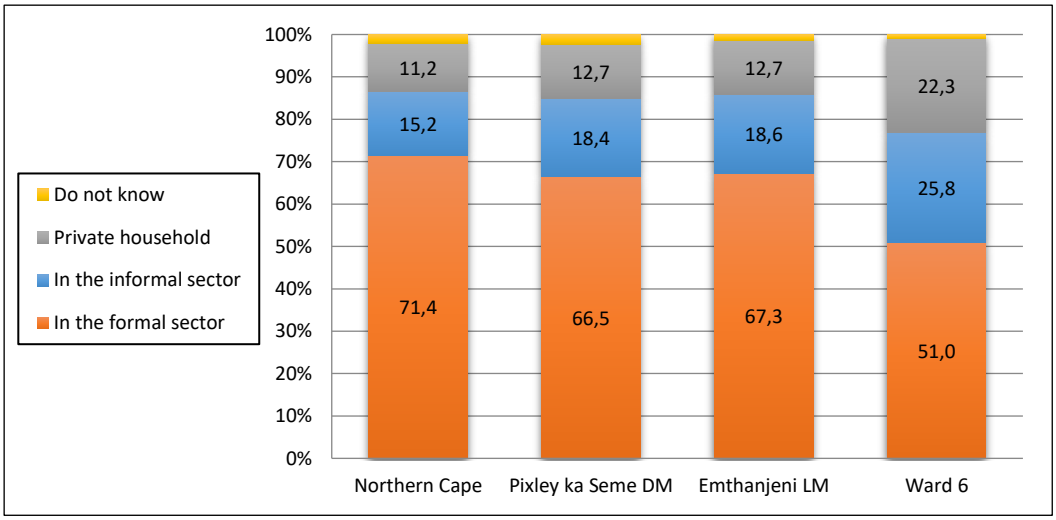


Figure 31: *Employment sector (those aged between 15 - 65 years, shown in percentage, source: Census 2011)*

(**Appendix D6** - *Social Impact Assessment Report prepared by Ilse Aucamp of Equispectives Research & Consulting Services dated August 2022).*

Economic profile of local municipality:

The lowest proportion of people with no annual household income is on ward level (**Figure 32**). Almost 60% of the households in Ward 6 had an annual household income of below R38 201 in 2011.

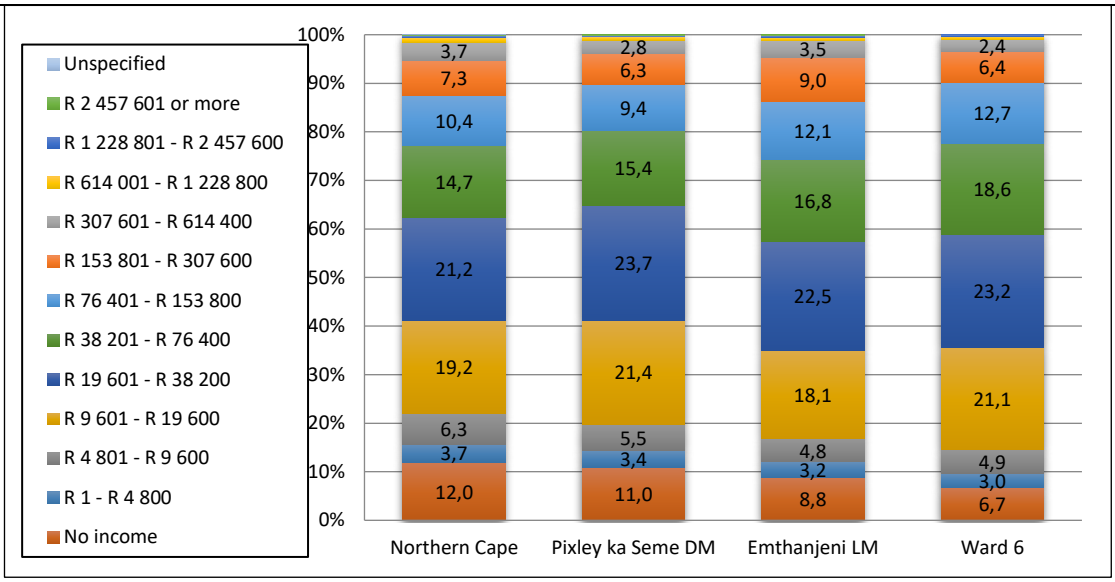


Figure 32: Annual household income (shown in percentage, source: Census 2011)

Agriculture forms the backbone of the economy of the Emthanjeni LM (Emthanjeni LM IDP, 2021/22) and accounts for the largest labour/employment contributor to date. There is a big abattoir in De Aar that solely caters for sheep with a capacity of 1 000 carcasses a day. The area is famous for 'Karoo' mutton. Sheep, wool, and mutton are the main farming activities in the Britstown area while hunting of small game is also very popular. Wool is exported to Gqeberha (formerly Port Elizabeth). Besides sheep farming, cattle, goat, pig, and game are also being farmed. The town of Hanover is well endowed with construction industry artisans. The manufacturing sector shows potential for growth through the introduction of renewable energy projects in De Aar and the surrounding areas. There are also stone crushers in the area that specialise in the manufacturing of sand, bricks cement and rocks. Other economic activities include services, retail, transport, and tourism. (**Appendix D6** - *Social Impact Assessment Report prepared by Ilse Aucamp of Equispectives Research & Consulting Services dated August 2022).*

Level of education:

About two fifths of the people in Ward 6 aged 20 years or older have no schooling or only some primary education (**Figure 33**). This is higher than on local, district or provincial level. These high levels of illiteracy should be taken into consideration when consulting with farmworkers or communities on the project.

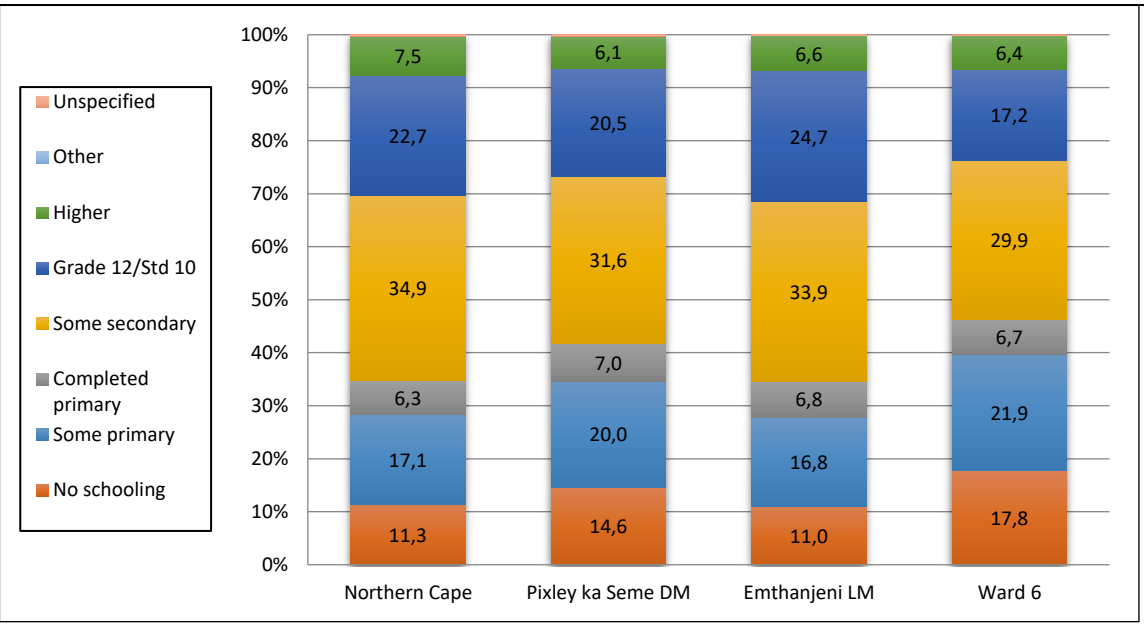


Figure 33: Education profiles (those aged 20 years or older, shown in percentage, source: Census 2011)

(**Appendix D6** - *Social Impact Assessment Report prepared by Ilse Aucamp of Equispectives Research & Consulting Services dated August 2022).*

b) Socio-economic value of the activity

What is the expected capital value of the activity on completion?	R 63 000 000.00	
What is the expected yearly income that will be generated by or as a result of the activity?	N/A	
Will the activity contribute to service infrastructure?	YES	~~NO~~
Is the activity a public amenity?	YES (portion of the road is public)	~~NO~~
How many new employment opportunities will be created in the development and construction phase of the activity/ies?	45	
What is the expected value of the employment opportunities during the development and construction phase?	Estimate R6 000 000.00 over 90-day period for skilled and unskilled (50% of P&G)	
What percentage of this will accrue to previously disadvantaged individuals?	65 – 70 %	
How many permanent new employment opportunities will be created during the operational phase of the activity?	N/A – road upgrade	
What is the expected current value of the employment opportunities during the first 10 years?	N/A – road upgrade	
What percentage of this will accrue to previously disadvantaged individuals?	% - N/A	

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)

Alternative S1 (preferred) and Alternative S2:

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)~~	• Besemkaree Koppies Shrubland • Northern Upper Karoo • Conservation Areas • IBA Platberg-Karoo Conservancy • All natural wetlands • All wetland FEPAs • All Rivers • FEPA 500m • FEPA catchment • National Protected Area Expansion Strategy (Alternative S2 only)

b) Indicate and describe the habitat condition on site

Alternative S1 (preferred):

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	4,15 km of 14,1 km = **29%**	The section of **new road** that will be built in virgin veld from the where the farm track reaches the perimeter fence of Cluster 1 to the Main Transmission Substation is **± 2,65** km long. Additionally, there are four sections where the centre line of the proposed alignment is further than 5,5 m from existing farm tracks. These four road sections are therefore assumed to constitute development of infrastructure (instead of expansion). They are approximately 43 m, 32 m, 236 m and 1,2 km long. The total length of the natural habitat that will be disturbed is therefore **± 1,5 km**. Veld condition at the study area is characterised by a dominant Karoo-bossie component, an abundance of bare ground and a sparse grass component. The agricultural potential of these shallow soils is very low, so extensive grazing with relative low animal numbers is the most suitable agricultural application (Soil

		and Wetland Assessment prepared by Hennie van den Berg & Francois de Wet and dated February 2017). Veld Condition Assessments during drought conditions, in 2017, as well as later, in 2021 and 2022, under higher rainfall conditions, indicated that the veld was overgrazed. This section of road intersects Grazing Units I, II and III with a median grazing capacity ranging from 17 to 55 ha/LSU (Agro-ecosystem specialist assessment prepared by D.V.F. Arnoldi, H.M. van den Berg and F. Botha dated 20 January 2023).
Near Natural (includes areas with low to moderate level of alien invasive plants)		None.
Degraded (includes areas heavily invaded by alien plants)		None.
Transformed (includes cultivation, dams, urban, plantation, roads, etc)	9,95 km of 14,1 km = **71%**	The section of existing **public** 'Burgerville' District Road (DR2448) that will be repaired and/or rebuilt is **± 5.2 km** long. The section of existing **private** farm tracks from where the formal district road known as DR2448 intersects the De Bad farm boundary to the fence line of the Sun Central Cluster 1 solar field (footprint) is ± 6,25 km long, less the four sections of road where the centre line of the proposed alignment is further than 5,5 m from existing farm tracks (1,5 km). The total length of farm tracks that will be disturbed is therefore **± 4,75 km**.

Alternative S2:

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	1,8 km of 25,7 km = **7%**	The section of **new road** that would need to be built in virgin veld from the where the existing road reaches the farm boundary to the Main Transmission Substation is ± 1,8 km long. Veld condition at the study area is characterised by a dominant Karoo-bossie component, an abundance of bare ground and a sparse grass component. The agricultural potential of these shallow soils is very low, so extensive grazing with relative low animal numbers is the most suitable agricultural application (Soil and Wetland Assessment prepared by Hennie van den Berg & Francois de Wet and dated February 2017). Veld Condition Assessments during drought conditions, in 2017, as well as later, in 2021 and 2022, under higher rainfall conditions, indicated that the veld was overgrazed. This section of road intersects Grazing Units I and II with a median grazing capacity ranging from 17 to 35 ha/LSU (Agro-ecosystem specialist assessment prepared by D.V.F. Arnoldi, H.M. van den Berg and F. Botha dated 20 January 2023).
Near Natural (includes areas with low to moderate level of alien invasive plants)		None.

Degraded (Includes areas heavily invaded by alien plants)		None.
Transformed (Includes cultivation, dams, urban, plantation, roads, etc)	23,9 km of 25,7 km = **93%**	The section of existing **public** District Road (DR2451) (± 17,2 km) as well as another section no longer registered as an official road but formally known as road 3557 (± 6,7 km), and which would need to be repaired and/or rebuilt, is ± 23,9 km long.

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.

Alternative S1 and Alternative S2:

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

Alternative S1 (preferred):

Terrestrial Ecosystems

Vegetation

According to the national vegetation map (Mucina & Rutherford 2006), the entire site falls within a single vegetation type, Northern Upper Karoo. Northern Upper Karoo has not been significantly affected by transformation and is still approximately 96% intact and is classified as Least Threatened (Mucina & Rutherford 2006). The vegetation consists of shrubland dominated by dwarf Karoo shrubs, grasses and *Acacia mellifera* subsp. *detinens*, and other low trees particularly on the sandy soils. The vegetation is flat to gently sloping with isolated hills of Upper Karoo Hardeveld in the south and Vaalbos Rocky Shrubland in the northeast and with many interspersed pans (Mucina & Rutherford 2006).

The combination of rocky hills and plains creates a diversity of habitats that is important for fauna and the diversity of these areas is higher than areas without open plains. There is a low ridge with runs through the area in the vicinity of the Main Transmission Station (MTS) of the site and which is not considered suitable for development as the hills are significant for biodiversity and ecological functioning.

The site also includes extensive open plains in the north and west that are considered largely suitable for development. The open plains in the north are bounded between the Brak River in the east and the property boundary in the west and have no features of significance.

At a broad level, the site consists of areas of contrasting sensitivity, which is driven by the presence of the Brak River system at the site and a series of dolerite outcrops which are considered high sensitivity in comparison with the open plains of the site which are comparatively low sensitivity. The major sensitive feature of the broader

site is the Brak River system which has extensive silty floodplains that are occasionally inundated. There are also some dolerite ridges and outcrops which are considered sensitive and unsuitable for development.

Listed and Protected Plant Species

According to the SIBIS database, a total of 407 plant species are found in the QDS 3024, of which only four red data-listed plant species are represented, *Chasmatophyllum maninum* and *Chasmatophyllum rouxii* (listed as DDD (data deficient, insufficient information)), *Cynodon polevansii*, which is listed DDT (Data Deficient – Taxonomically Problematic), and *Rapanea melanophloeos*, which is listed as Declining.

The *Chasmatophyllum* species are associated with rocky flats and areas of exposed bedrock and *Chasmatophyllum maninum* is confirmed present at the site. *Rapanea* is associated with forest patches that usually occur around the base or in small kloofs of sandstone outcrops in vegetation types such as Besemkaree Koppies Shrubland and as it was not observed at the site and it is highly unlikely to be present.

Other species of significance observed at the site include *Stomatium pluridens* and *Euphorbia crassipes*, which are regional endemics and provincially protected, while other protected species include *Aloe broomii* var. *broomii*, *Aloe claviflora*, *Pachypodium succulentum*, *Ammocharis coranica*, and *Boscia albitrunca*.

Fauna

Eleven frog species are known from the broad area around the site, including the Giant Bullfrog *Pyxicephalus adpersus* which is listed as Near Threatened.

Refer to **Appendix D7** – *Environmental Impact Assessment for the proposed Soventix Solar PV Project, De Aar, Northern Cape: Fauna & Flora Specialist EIA Report prepared by Simon Todd Consulting dated May 2017.*

Aquatic Ecosystems

The main aquatic feature within the project area is the Brak River (Sub-quaternary D62D-05613), a seasonal tributary within the Orange River Catchment. The river drains the D62D quaternary catchment in the Nama Karoo Ecoregion of the Orange Water Management Area. The Brak River and certain larger ephemeral tributaries are the only natural drainage structures in the study area with weak indicators of riparian vegetation in the riverbed and on the riverbanks. The overall Ecostatus of the drainage lines within the project area is a Category C (Moderately modified).

Five distinct water resource types were recognised in the project area. Not all water resource types, specifically the **alluvial floodplains**, are technically a 'watercourse':

1. Brak River drainage system.
2. Large ephemeral tributaries.
3. Smaller ephemeral tributaries.
4. Alluvial floodplains.
    - Alluvial fans.
    - Braided channel: bar and swale topography.
    - Floodplain flats.
5. Headwater drainage lines

1. Brak River and riparian areas

The Brak River and its associated floodplains are relatively wide (ranging from about 30 m to approximately 2000 m) and consists of a main channel with incised banks and the wider floodplain with depression wetlands and secondary channels that are the remnants of old river channels, formed as the river has migrated within the alluvial floodplain. They tend to be classified as watercourses rather than as wetlands as they show very few wetland characteristics in the strictest sense.

The alluvial fans and erosion dongas cover most of the demarcated "floodplain" and due to their function, slope and consistency, these areas will only be briefly inundated with surface water during rainy events and the surface water will be rapidly transported to the low-lying active channel of the system.

The Brak River system consists of a wide braided channel with alluvial bars that are dominated by tall hygrophilic grass, sedges, rushes, and the common reed *Phragmites australis,* while the floodplain consists of low growing shrubs and grasses.

Reeds and tall hygrophilic grass can be found in certain areas in the riverbed which indicates areas of extended surface water accumulation, or a very shallow subsurface water source. On the riverbanks sedges (*Scirpoides*) and rushes (*Juncus*) can be found in a narrow band along the embankment and in some wet patches further away between drainage lines.

2. Larger ephemeral tributaries

Apart from the basic channel that delineates the ephemeral drainage line, different geomorphological and vegetation features are present in the drainage line configuration. The riverbeds are only inundated with water during heavy rain downpours. The "riparian zone" of the larger ephemeral tributaries is between 1 and 5 meters wide, especially where depressions in the system allows for water to form temporary pools or ponds. Patches of sedges are scattered between dwarf karroid scrub and tufted grass on the stream banks.

The larger drainage systems provide important wildlife movement corridors in arid and semi-arid regions because of the near continuous band of riparian or marginal vegetation that small and medium-sized animals can utilize for cover and food. Migrating birds are highly dependent upon riparian and xeroriparian vegetation in arid and semi-arid lands, utilising the denser vegetation structure in an otherwise shrubby environment to perch and rest during migration.

Alluvium deposited in larger drainage lines is usually looser than the soils or colluvium of surrounding uplands, which enhances the potential for exploitation by specialized sand-burrowing species of wildlife, such as lizards, golden moles, meerkat, frogs, many insects, etc.

3. Smaller ephemeral tributaries

All the smaller tributaries in the area are ephemeral and most are discernible only as slightly shallow depressions with slightly clayey soils and no clear associated vegetation, although the vegetation in the drainage line does differ from the terrestrial vegetation. The riparian zone along the smaller drainage lines is not so pronounced as that of the larger systems and can be absent in some areas along the drainage. In areas the drainage lines may erode into weak channels, mostly due to human intervention such as in-stream dams and multiple earthen berms.

Most of the terrestrial areas around these drainage systems in the project area are covered with dwarf karroid scrub and tufted grass but devoid of trees or shrubs. Since this river is an intermittent river, very little trees are present in the riparian zone. No hydromorphic (wetland soil) or hydrophyte (wetland plant) indicators are expected in these watercourses.

Alluvium deposited in drainage lines is often looser than the soils or colluvium of surrounding uplands, which enhances the potential for exploitation by specialized sand-burrowing species of wildlife, such as lizards, frogs, golden moles, many insects, etc.

4. Alluvial floodplains and fans

Alluvial floodplains, washes and fans are the dominant feature of the erodible and very dry Karoo landscape, compared with the fewer active channels and more prominent tributaries. These Floodplain systems are responsible for a large portion of basin ground-water recharge in arid and semi-arid regions through channel infiltration and transmission losses.

The alluvial fans and erosion-dongas cover most of the demarcated "floodplain" and due to their function, slope and consistency, these areas will only be briefly inundated with surface water during rainy events and the surface water will be rapidly transported to the low-lying active channel of the system.

Surface water may flow along a particular channel in one year but owing to little topographic definition or gradient across the landscape, a parallel channel may be eroded the following year, leading to a network of channels. Some ecologists call these features "dendritic drainage systems", while others refer to them as washes or floodplains. They tend to be classified as watercourses rather than as wetlands as they show very few wetland characteristics in the strictest sense.

Alluvial fans are typically created when valleys widen suddenly or stream flows from a narrow, relatively steep valley onto a wider, gradually sloping valley floor or flatter plain. Rapid deposition of the sediment load carried by surface water, gives rise to these alluvial fans. Some alluvial fans (or portions of alluvial fans) have distinct channels, while others may lose this distinction as water and sediment disperse and settle relatively evenly across the fan.

These alluvial fans are usually bare soil flats or conduits. However, in higher lying portions dwarf karroid scrub and tufted grass will colonise on ridges. The ecological functioning and importance of these alluvial features are not known.

5. Headwater drainage lines

Headwater drainage lines that only carry storm flow are located at the source of drainage line networks. Headwater drainage lines have discontinuous or swale-like channels. These drainage lines have riparian vegetation that consists of a relatively sparse low shrub layer.

Headwater drainage lines, which include first and second order drainage lines and ephemeral channels, are also regarded as watercourses, even though they may have discontinuous or swale-like channels. One of the key differences between headwater drainage lines and seeps, is that seeps are often fed primarily by the expression of groundwater at the ground surface whereas headwater drainage lines are typically fed by precipitation alone. It should also be noted that systems that are not permanently or periodically inundated are not considered true wetlands, e.g., those associated with the drainage lines.

Headwater drainage lines differ from downstream reaches due to a closer linkage with hillslope processes, higher temporal, and spatial variation, effectively forming part of a continuum between hillslopes and stream channels (Gomi et al. 2002). Headwaters of a drainage system are important sources of sediment, water, nutrients, seeds, and organic matter for the downstream systems (Gomi et al., 2002). Transitional channels (temporary or ephemeral channels) can have defined channel banks, as well as discontinuous channel segments along their length, and emerge out of zero-order basin. They form the headmost definable portion of the drainage line network (first-order channels) and can have either ephemeral or intermittent flow.

6. Wetlands

There are no significant wetlands present in the three main study areas. The most conspicuous wetlands are small artificial permanent wetlands around watering points and borrow pits. There is no major flood danger inside the study areas except for a small southern portion of Alternative 2 that overlaps with the edge of the floodplain. However, the adjacent flood plains are characterised by severe flooding during some rainy seasons.

Refer **Appendix D3** – Aquatic Specialist studies.

SECTION C: PUBLIC PARTICIPATION

1. ADVERTISEMENT AND NOTICE

Publication name	Noordkaap Bulletin and Volksblad	
Date published	24 November 2022 (Noordkaap Bulletin) and 25 November 2022 (Volksblad)	
Site notice position Site notice board No. 1 was placed at the intersection of the N10 highway with the District road to Burgerville	**Latitude** 30°52'31.61"S	**Longitude** 24°13'27.31"E
Site notice board No. 2 was placed on the gate to portion 1 of erf 139 of farm Riet Fountain No. 39 located along the District road to Burgerville	30°51'16.96"S	24°15'52.44"E
Site notice board No. 3 was placed on the entrance gate to Retief Geelbek Merino's De Bad Farm on portion 1 of erf 139 of farm Riet Fountain No. 39 located	30°50'37.25"S	24°18'49.12"E
Date placed	23 November 2022	

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

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.

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)
Willem Retief	Landowner	wretief@webmail.co.za
Neville Vimpany	Neighbour	cathy.vimpany@yahoo.com
Corneulis Oosthuizen	Neighbour	louisa.oosthuizen25@gmail.com
Pieter du Toit	Neighbour	psdutoit4@gmail.com
Andries Pienaar	Neighbour	andriespienaar@hotmail.com
Manual Orfao	Neighbour	morfao@worldonline.co.za
Dawie du Plessis	Neighbour	l.duplessis@live.com
Christiaan Venter	Neighbour	wortelfontein@vodamail.co.za
Themba Thabete	South African Civil Aviation Authority (SACAA)	thabethet@caa.co.za
Ernest Retief	Bird Life SA	ernst.retief@birdlife.org.za

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.

3. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

Summary of main issues raised by I&APs	Summary of response from EAP

Comment	Phase	Management Category & [Receiving Environment]
SANRAL: If services need to be constructed over or under the national road, (in this case the N10) or within 60 m measured from the road reserve fence, the service owner must apply for a written permission from SANRAL, before any work may be carried out (wrstatutory@nra.co.za). Nicole Abrahams, Environmental Coordinator, Western Region, Bellville, Western Cape, 7530, T: 021 957 4602, M: 062 215 8945, E: AbrahamsN@nra.co.za	Planning and Design, and Pre-construction.	(1) Legal Compliance Management, and (2) Contractor Readiness. [Legal System]
PIXLEY KA SEME DISTRICT MUNICIPALITY: SANRAL or the Department of Roads and Public Works Northern Cape are the road authorities of rural roads in the district, and you are advised to liaise with them. The District Municipality is no longer responsible for road maintenance since 2011. Hennie Greeff, Senior Manager Infrastructure Development, Housing and Planning, Pixley ka Seme District Municipality, Private Bag X1012, 1 Culvert Road, De Aar, 7000	No mitigation needed	No mitigation needed
CAA: ATNS: "Below is the criteria for obstacle evaluation according to the regulations: • If the Solar PV installation is equal to or bigger than 5000 square meters; • If the Solar PV installation falls within a 8km radius around any aerodrome/airstrip or helipad; • If the Solar PV installation falls within the Approach and Departure area of any aerodrome/airstrip or helipad and • If the Solar PV installation falls within 3km radius of any aerodrome/airstrip or helipad a glint and glare	No mitigation needed	No mitigation needed

assessment is required from the applicant." Yunga Nofuma, Obstacle Administrator, COO – Air Traffic Services, Bruma, T: 011 607 1474, F: 086 695 2610, E: obstacles@atns.co.za "We at ATNS are concerned about the safety of air traffic operations and it is our duty to assess the impact of all structures that have the ability to pose a threat to air traffic operations. As far as I know we do not conduct obstacle evaluations for flat surface roads." Hassinah Mileng, Obstacle Evaluator, COO – Air Traffic Services, Bruma, T: 011 607 1474, F: 086 695 2610, E: HassinahM@atns.co.za		
DMRE: Section 53 of the MPRDA, reads "53. Use of land surface rights contrary to objects of Act (1) Subject to subsection (2), any person who intends to use the surface of any land in any way which may be contrary to any object of this Act or which is likely to impede any such object must apply to the Minister for approval in the prescribed manner." "Kindly note that if you want to apply for section 53, you can lodge your application online on the Department's website. Check for SAMRAD applications and follow the steps to create your profile. You must select land use application which is section 53." (pers. comm. Mmboneni Mutheiwana, MMboneni.Mutheiwana@dmre.gov.za)	Planning and Design, and Pre-construction.	(1) Legal Compliance Management, and (2) Contractor Readiness. [Legal System]
ESKOM: Please provide a formal application letter in your company letter head detailing the proposed work within our servitude. Furthermore, for road applications underneath Eskom Tx lines, please ensure to provide the following information:	Planning and Design	(1) Legal Compliance Management [Legal System]

1. Need location of new road crossing, which line and towers affected. 2. Need final designs for road, showing the final elevation and road surface level. 3. Need construction methodology for road. 4. Need details on how surface will be made, graders, blasting etc. 5. Need timelines for road construction. 6. Need applicant to conduct survey to gather current conductor positions of line being crossed and current surface levels of servitude (pers. comm. Nomzamo Mdunyelwa ST(SA)0991, Senior Advisor Audit and Investigation, Servitude and Land Management, Asset Management - Transmission Division, Eskom (Tel: 053 830 5947, Mobile: 081 046 5341, Email: MdunyeNC@eskom.co.za)		
SARAO: SARAO has undertaken a high-level impact assessment based on the information provided for the access road located at central coordinates 30°51'59.13"S 24°18'21.29"E. It was determined that the project represents a low risk of interference to the nearest SKA radio telescope with a compliance surplus of 66.87 dBm/Hz. As such, we do not have any objection to the proposed development (pers. comm. Mr Selaelo Matlhane, Spectrum & Telecommunication Manager, South African Radio Astronomy Observatory (SARAO), Tel: 011 442 2434, Email: smatlhane@sarao.ac.za)	No mitigation needed	No mitigation needed
NORTHERN CAPE DAEARD&LR: Letter dated 13 April 2023 (**Appendix E6**): In terms of the land use change, it will be required to apply for rezoning of a portion of the farmland to accommodate proposed solar development including associated infrastructure. The rezoning application can lead to consolidation of portions of farmland to comply with requirements. A servitude application must be submitted for approval for the proposed access road.	Planning and Design	(1) Legal Compliance Management, and (2) Contractor Readiness. [Legal System] The access road (19 m-wide Right of way servitude) is already included in a SALA application for subdivision and consolidation dated 19th December 2022. The Directorate: Land Use and

Erosion control plan Weeds and invasive alien plant species control plan. (Hannes Roux Directorate: Sustainable Resource Management Northern Cape Department of Agriculture, Environmental Affairs, Rural Development and Land Reform)		Soil Management acknowledged receipt of the application (AgriLand reference number: 2023_01_0044) on 23rd January 2023. An Erosion Control Plan and a Weeds and Invasive Alien Plant Species Control Plan have been created and will be included as appendices in the EMPr. The said plans are included in this letter for your review and approval, if required. Permanent proposed structures within 10 m horizontally outside the flood area of a watercourse and proposed roads crossing this zone have been addressed in the erosion control plan.
DWS: Letter dated 19 April 2023 (**Appendix E6**) Comments related to: • Registration of section 21 (a) water uses. • Storm water must be effectively managed, and a storm water management plan submitted to the local municipality for approval. • Written agreement for waste collection and disposal sent to DWS. • Registration of Section 21 (c) and (i). (Ms. A. A. Hlengani SAC: Water Quality Management Lower Orange Water Management Area)	Planning and Design and Pre-construction	(1) Legal Compliance Management, and (2) Contractor Readiness. (3) Planning [Legal System, Ground and Surface Water and Terrestrial Ecosystem] An Integrated Water Use License Application has been submitted to the Department using the on-line e-WULA system (Ref. No: WU27973).
SAHRA: Letter dated 05 May 2023 (**Appendix E6**). "SAHRA requests that a field-assessment of the proposed activities be undertaken as part of the EA Application process. The HIA must confirm the location and extent of the sites identified in 2022 by the representatives of Ecoleges and ground truth any areas associated with the	N/A	N/A

proposed amendment activities. The applicant is advised to follow the process in terms of section 19(1)b of NEMA in order to extend the EA process to address these comments".		
SAHRA: Letter dated 15 May 2023 (**Appendix E6**). The following comments are made as a requirement in terms of section 3(4) of the NEMA Regulations and section 38(8) of the NHRA in the format provided in section 38(4) of the NHRA and must be included in the Final BAR and EMPr: • 38(4)a – The SAHRA has no objections to the proposed development; • 38(4)b – The recommendations of the specialists are supported and must be adhered to. Further additional specific conditions are provided for the development: • Un-developed and un-disturbed sections of the proposed access road must be subjected to a walkdown by a qualified archaeologist to ensure that no heritage resources of high heritage will be impacted. A walkdown report must be submitted to SAHRA for comment. No construction in these sections may occur without comment from SAHRA; • SAHRA reserves the right to impose additional conditions on the development based on the results of the walkdown report; • 38(4)c(i) – If any evidence of archaeological sites or remains (e.g. remnants of stone-made structures, indigenous ceramics, bones, stone artefacts, ostrich eggshell fragments, charcoal and ash concentrations), fossils or other categories of heritage resources are found during the proposed development, SAHRA (Natasha Higgitt 021 202 8660/	Pre-construction and Construction	(1) Chance Find Protocol, (2) Clearing/Grubbing and Grading, (3) Planning and (4) Contractor Readiness. [Cultural Heritage]

nhiggitt@sahra.org.za) must be alerted as per section 35(3) of the NHRA. Non-compliance with section of the NHRA is an offense in terms of section 51(1)e of the NHRA and item 5 of the Schedule; • 38(4)c(ii) – If unmarked human burials are uncovered, the SAHRA Burial Grounds and Graves (BGG) Unit (Thingahangwi Tshivhase/Ngqabutho Madida 012 320 8490), must be alerted immediately as per section 36(6) of the NHRA. Non-compliance with section of the NHRA is an offense in terms of section 51(1)e of the NHRA and item 5 of the Schedule; • 38(4)d – See section 51 of the NHRA regarding offences; • 38(4)e – The following conditions apply with regards to the appointment of specialists: • With reference to the mitigation work noted above, a qualified archaeologist must be appointed to undertake the work in terms of the permit applied for as noted above; • If heritage resources are uncovered during the course of the development, a professional archaeologist or palaeontologist, depending on the nature of the finds, must be contracted as soon as possible to inspect the heritage resource. If the newly discovered heritage resources prove to be of archaeological or palaeontological significance, a Phase 2 rescue operation may be required subject to permits issued by SAHRA; • The Final BAR and EMPr must be submitted to SAHRA for record purposes;		

The decision regarding the EA Application must be communicated to SAHRA and uploaded to the SAHRIS Case application.		

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.

5. AUTHORITY PARTICIPATION

Authorities and organs of state identified as key stakeholders:

Authority/Organ of State	**Contact person (Title, Name and Surname)**	**Tel No**	**Fax No**	**e-mail**	**Postal address**
Emthanjeni Local Municipality	Themsile W Msengana	061 472 5577		tmsengana@emthanjeni.co.za	PO Box 42 De Aar 7000
Pixley Ka Seme District Municipality	Isak Visser	053 631 0891	053 631 2529	mm@pksdm.gov.za	Private Bag X1012 De Aar 7000
Department of Water & Sanitation	A. Abrahams	082 883 6741	053 830 8802	AbrahamsA@dwa.gov.za	Private Bag X6101 Kimberely 8300
National Department of Forestry, Fisheries and Environment (DFFE)	Lerato Mokoena	072 759 2181	012 399 9418	LMOKOENA@dffe.gov.za	
Northern Cape Department of Agriculture, Environmental Affairs, Rural development and Land Reform	Thulani Mthombeni	072 409 2277		tmthombeni013@gmail.com	90 Long Street Kimberly 8300
Department of Roads & Public Works	J Roelofse	053 839 2249		roelofse.j@vodamail.co.za	P. O. BOX 3132 Kimberly 8300
Provincial Department of Transport, Safety & Liason	Ms T. Modiakgotla (Private Secretary)	053 839 1702	053 839 1773	tmodiakgotla@ncpg.gov.za	Private Bag X1368 Southey Chambers Southey Street Kimberley 8300

Department of Mineral Resources	Mr Vincent Muila	053 807 1716		vincent.muila@dmr.gov.za	Private Bag X 6093 Kimberley 8300
Department of Human Settlements	Ms. I. Lekalake		053 830 9534	ilekalake@ncpg.gov.za	
Department of Energy	Johannes Mokobane		012 406 7804	johannes.mokobane@energy.gov.za	P/Bag X 96 Pretoria 001
ESKOM	Mr John Geeringh		011 516 7233	john.geeringh@eskom.co.za	
SKA	Dr. Adrian Tiplady		011 442 2434	atiplady@ska.ac.za	
SANRAL	Nicole Abrahams		021 957 4602	abrahamsn@nra.co.za	
SAHRA	Natasha Higgit			sahrisadmin@sahra.org.za	

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.

Refer to **Appendix F2** – Impact Assessment of Preferred Alternative.

Activity	Impact summary	Significance	Proposed mitigation
Alternative 1 (preferred alternative) Refer to **Appendix F2** – Impact Assessment of Preferred Alternative.			
	Direct impacts:	[redacted]	
	Indirect impacts:		
	Cumulative impacts:		
	Direct impacts:		
	Indirect impacts:		
	Cumulative impacts:		
Alternative 2 Refer to **Appendix F1** – Impact Assessment of Alternatives.			
	Direct impacts:	[redacted]	
	Indirect impacts:		
	Cumulative impacts:		
	Direct impacts:		
	Indirect impacts:		
	Cumulative impacts:		
~~**Alternative 3**~~			
	~~***Direct impacts:***~~		

Activity	Impact summary	Significance	Proposed mitigation
	~~Indirect impacts:~~		
	~~Cumulative impacts:~~		
	~~Direct impacts:~~		
	~~Indirect impacts:~~		
	~~Cumulative impacts:~~		
No-go option Refer to **Appendix F1** – Impact Assessment of Alternatives and **Appendix F2** – Impact Assessment of Preferred Alternative.			
	Direct impacts:		
	Indirect impacts:		The No-Go option would have an indirect but significant **negative** socio-economic impact as the MTS, Sun Central Cluster 1 Solar PV Facility, and other future facilities (1 GW in total) cannot be built without the improved access road. These Solar PV Facilities, will make a significant contribution to our country's power deficit when supply falls below demand, meeting basic needs and equity that the no-go option cannot achieve.
	Cumulative impacts:		

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 A (preferred alternative)

An impact and risk assessment of the preferred alternative relative to a second alternative and the no-go option was undertaken (**Appendix F1** and **Appendix F2**). It is the EAP's opinion (for the reasons given below) that the proposed development of the preferred Alternative Route No. 1 is the best practicable environmental option and should be subjected to a Basic Assessment to comprehensively determine the feasibility of the project and mitigate impacts relating to its development.

Alternative Route No. 1 (preferred) is ± 14.1 km long, starts at the N10/Burgerville District Road intersection, traverses along part of the District Road and then enters private properties belonging to a single landowner with whom the Applicant (SAE) has a legal Agreement for the development and operation of Sun Central Cluster 1 Solar PV Facility, including the Switching Station (Dx) and Main Transmission Substation (MTS),

where the road ends. The last ± 2,65 km follows undisturbed ground from the where the farm track reaches the perimeter fence of Cluster 1 to the Switching Station and Main Transmission Substation.

Impact 1. Construction related impacts on Avifauna, such as mortalities and disturbance to breeding, are potentially significant because both routes are in an IBA with recorded Globally and Regionally threatened species. Furthermore, a portion of the preferred Alternative Route No. 1 is within the 1 km buffer of a known Verreaux Eagle's nest. None-the-less it is possible to mitigate these impacts to the extent that they are non-significant on both routes.

Impact 2. There is sufficient surplus groundwater available in both sub catchments (HRU4 and HRU5) to provide construction water for the shorter preferred Alternative Route No. 1.

Impact 3. Dust emissions during road construction are generally socially unacceptable and therefore potentially significant. However, the lesser geographical extent associated with the shorter (14.1 km) Preferred Alternative Route No.1 does make it *less* significant compared with the longer (25.7 km) Alternative Route No. 2. Whilst dust pollution can be mitigated to non-significant levels for both alternative routes, spraying water along the length of Preferred Alternative Route No. 1 will incur lesser financial and ecological (water usage) costs compared with the Alternative Route No. 2.

Impact 4. Preferred Alternative Route No.1 intersects sensitive aquatic environments including a Strategic Water Source Area, NFEPA Rivers and Wetlands, as well as CBAs and an ESA (the Biodiversity Features identified with CBA1 include *inter alia* NFEPA River and Wetland ecosystems). Consequently, the potential fragmentation of these sensitive aquatic environments caused by the route is considered significant. However, it is possible through proper engineering designs to maintain the continuity of ecological process pathways, specifically uninterrupted or unobstructed surface, and subterranean flows, thereby reducing the rating for the Preferred Alternative Route No.1 to non-significant.

Impact 5. Alternative Route No. 1 (14.1 km) will incur a *less* significant financial cost for repairing and rebuilding an access road, compared with the Alternative Route No. 2 (25.7 km) because it is in a better condition and is shorter in length thereby reducing the cost of hauling imported road material.

Impact 6. The social (well-being) impact of Preferred Alternative Route No. 1 is *less* significant than the Alternative Route No. 2 because the Alternative Route No.2 requires intensely modifying sections of the road network within Hanover town itself.

Impact 7. Preferred Alternative Route No.1 is of a low palaeological sensitivity. The proximity of preferred Alternative Route No. 1 to several cultural heritage (archaeological & historical) resources that were recorded during previous archaeological and heritage assessments (2017, 2021 & 2022) does pose a significant risk. However, these risks can be easily and adequately mitigated by remaining outside those areas.

Alternative B

An impact and risk assessment of the preferred alternative relative to a second alternative and the no-go option was undertaken. It is the EAP's opinion (for the reasons given below) that the proposed development of the preferred Alternative Route No. 1 is the **best practicable environmental option** and should be subjected to a Basic Assessment to comprehensively determine the feasibility of the project and mitigate impacts relating to its development.

Alternative Route No. 2 is 25.7 km long, starts at the N10/District Road 2451 intersection in Hanover Town, traverses along part of the District Road and then enters private properties belonging to multiple landowners before entering the landowner's property with whom the Applicant (SAE) has a legal Agreement for the development and operation of Sun Central Cluster 1 Solar PV Facility, including the Switching Station (Dx) and Main Transmission Substation (MTS), where the road ends. The last ± 1,8 km follows undisturbed ground from the where the farm track reaches the farm boundary and perimeter fence of Cluster 1 to the Switching Station and Main Transmission Substation.

Impact 1. Construction related impacts on Avifauna, such as mortalities and disturbance to breeding, are potentially significant because both routes are in an IBA with recorded Globally and Regionally threatened species. Alternative Route No. 2 covers a greater geographical area.

Impact 2. Although there is sufficient surplus groundwater available in both sub catchments (HRU4 and HRU5) to provide construction water for both alternative routes and mitigations will ensure that abstraction yields and ecological reserves are not exceeded, Alternative Route No. 2 remains significant (after mitigation) because the estimated additional demand of 151 250 litres/day is believed to be a wasteful use of a regionally scarce resource.

Impact 3. Dust emissions during road construction are generally socially unacceptable and therefore potentially significant. However, the greater geographical extent associated with the longer (25.7 km) Alternative Route No. 2 does make it *more* significant. Dust pollution can be mitigated to non-significant levels for both alternative routes, spraying water along the length of Alternative Route No. 2 will incur greater financial and ecological (water usage) costs.

Impact 4. Alternative Route No.2 intersect sensitive aquatic environments including a Strategic Water Source Area, NFEPA Rivers and Wetlands, as well as CBAs and an ESA (the Biodiversity Features identified with CBA1 include *inter alia* NFEPA River and Wetland ecosystems). Consequently, the potential fragmentation of these sensitive aquatic environments is considered significant. However, it is possible through proper engineering designs to maintain the continuity of ecological process pathways, specifically uninterrupted or unobstructed surface, and subterranean flows, thereby reducing the rating for Alternative Route No.2 to non-significant.

Impact 5. Alternative Route No. 2 (25.7 km) will incur a *more* significant financial cost for repairing and rebuilding an access road because it is in a worse state of disrepair and 82% longer. It was found that access to the MTS through Hanover along the 2451 District Road would require extensive engineering and construction. An effective 25.7 km of road would require rebuilding, improving and in sections approval with road authorities and local farmers.

Impact 6. The social (well-being) impact of Alternative Route No. 2 is *more* significant because it requires intensely modifying sections of the road network within Hanover town itself. Whilst mitigation potential is High, the impact of Alternative Route No. 2 remains significant owing to the higher expected average daily traffic (ADT) in Hanover town.

Impact 7. Alternative Route No. 2 is of a low palaeological sensitivity. The proximity of Alternative Route No. 2 to a Grade II and Grade IIIa Heritage site does pose a significant risk. However, these risks can be easily and adequately mitigated.

No-go alternative (compulsory)

The No-Go option would be a significant negative economic impact as the MTS and associated Solar PV Facility (and other facilities) cannot be built without the improved access road, thereby denying South Africans of basic needs and equity that are dependent on a consistent and reliable supply of green energy.

Unlike both alternative sites, the No-Go option poses no ecological threat before mitigation.

However, South Africa's electricity infrastructure has been degrading in the past decades, with both scheduled and unscheduled power outages on the increase, requiring intermittent loadshedding to balance the electricity supply and demand. Simply put, South Africa cannot generate sufficient electricity to supply its people and economy. Apart from loadshedding, creating an awareness of and implementing power saving initiatives to reduce demand, no alternative exists other than "to rapidly expand our energy generation capacity" (President Cyril Ramaphosa: 2021 State of the Nation Address, 2021 https://www.gov.za/speeches/president-cyril-ramaphosa-2021-state-nation-address-11-feb-2021-0000).

Consequently, the No-Go option would have an indirect but significant negative socio-economic impact as the MTS, Sun Central Cluster 1 Solar PV Facility, and other future facilities (1 GW in total) cannot be built without the improved access road. These Solar PV Facilities, will make a significant contribution to our country's power deficit when supply falls below demand, meeting basic needs and equity that the no-go option cannot achieve.

A high mitigatory potential of the identified impacts at both alternative routes means that the access road can be constructed without any significant negative impacts on the natural and socio-economical environments. Alternative Route No. 1 (preferred) is, however, the most favourable option as it will place a lower demand on

the groundwater aquifer, incur lower project (repair and rebuilding) costs and cause less disruption to the social well-being of local farmers and residents.

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).

N/A

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.

1. The holder of the authorisation must appoint an experienced independent Environmental Control Officer (ECO) for the construction phase of the development that will have the responsibility to ensure that the mitigation/rehabilitation measures and recommendations referred to in this environmental authorisation are implemented and to ensure compliance with the provisions of the approved EMPr.
2. The authorisation is valid for 10 years and there should be no restriction on commencement of construction.
3. The construction of linear infrastructure across parts of the ephemeral drainage system and wetlands, should be restricted to the extent possible to the dry winter months (e.g., May to September), that is commence with such activities as clearing or grading, excavating and importing material at the end of the wet season/beginning of the dry season whilst the soil is still moist to reduce dust and as far as is practical, be completed in, the dry winter months with a decreased probability of storm events.

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

ADDENDUM

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.

Alternative S1 (preferred):

Point	Latitude (S) (DDMMSS)	Longitude (E) (DDMMSS)
Start (N10 intersection)	30°52'31.55"S	24°13'25.94"E
Midpoint of Bend 1 (public road)	30°52'24.74"S	24°13'43.09"E
Midpoint of Bend 2 (public road)	30°52'13.84"S	24°13'40.61"E
Start of private road (entry to Riet Fountain 39C)	30°51'17.05"S	24°15'52.05"E
Midpoint Bend 3 (Brak River)	30°51'3.24"S	24°16'37.20"E
Midpoint Bend 4 (private road)	30°51'29.06"S	24°17'44.34"E
Midpoint Bend 5 (private road)	30°51'33.85"S	24°17'43.90"E
Midpoint Bend 6 (private road)	30°51'52.54"S	24°18'8.41"E
Midpoint Bend 7 (private road)	30°52'26.61"S	24°17'55.01"E
Start of new road to MTS	30°52'44.15"S	24°18'20.12"E
Turning point to Dx substation	30°53'9.68"S	24°18'38.11"E
Midpoint Bend 8 (private road)	30°53'19.05"S	24°18'44.65"E
Midpoint Bend 9 MTS	30°53'16.42"S	24°19'5.10"E
Midpoint Bend 10 MTS	30°53'23.15"S	24°19'8.26"E
Midpoint Bend 11 MTS	30°53'27.24"S	24°18'58.19"E
End (MTS)	30°53'20.88"S	24°18'53.49"E

Figure 34: Alternative S1 (preferred) route.

Alternative S2:

Point	Latitude (S) (DDMMSS)	Longitude (E) (DDMMSS)
Start (Hanover)	31° 4'18.54"S	24°26'37.65"E
1	31° 4'6.22"S	24°26'38.57"E
2	31° 4'6.01"S	24°26'31.44"E
3	31° 3'51.69"S	24°26'33.00"E
4	31° 3'35.70"S	24°26'30.39"E
5	31° 3'25.03"S	24°26'21.96"E
6	31° 3'12.14"S	24°26'16.30"E
7	31° 2'55.46"S	24°26'9.06"E
8	31° 2'37.12"S	24°26'1.39"E
9	31° 2'17.91"S	24°25'53.11"E
10	31° 1'58.04"S	24°25'44.74"E
11	31° 1'40.51"S	24°25'37.45"E
12	31° 1'20.18"S	24°25'28.55"E
13	31° 1'2.93"S	24°25'21.03"E
14	31° 0'38.19"S	24°25'9.77"E
15	31° 0'26.06"S	24°25'1.96"E
16	31° 0'11.22"S	24°24'52.20"E
17	30°59'53.11"S	24°24'40.63"E
18	30°59'31.33"S	24°24'47.72"E
19	30°59'7.36"S	24°24'40.20"E
20	30°58'54.64"S	24°24'30.03"E
21	30°58'42.91"S	24°24'20.33"E
22	30°58'24.76"S	24°24'4.61"E
23	30°58'11.25"S	24°23'50.51"E
24	30°57'58.15"S	24°23'37.26"E
25	30°57'40.18"S	24°23'20.40"E
26	30°57'14.80"S	24°23'20.46"E
27	30°56'57.11"S	24°23'12.35"E
28	30°56'37.22"S	24°23'2.52"E
29	30°55'59.96"S	24°22'44.16"E
30	30°55'45.06"S	24°22'34.05"E
31	30°55'26.99"S	24°22'26.05"E

32	30°55'1.78"S	24°22'1.00"E
33	30°54'37.53"S	24°21'22.94"E
34	30°54'16.78"S	24°20'58.64"E
35	30°53'53.34"S	24°20'33.23"E
36	30°53'13.22"S	24°20'4.12"E
37	30°53'19.27"S	24°19'51.82"E
38	30°53'25.97"S	24°19'32.60"E
39	30°53'28.99"S	24°19'24.68"E
40	30°53'30.46"S	24°19'7.45"E
41	30°53'28.60"S	24°18'57.41"E
End (MTS)	30°53'21.98"S	24°18'53.85"E

Figure 35: Alternative S2 Route**.**

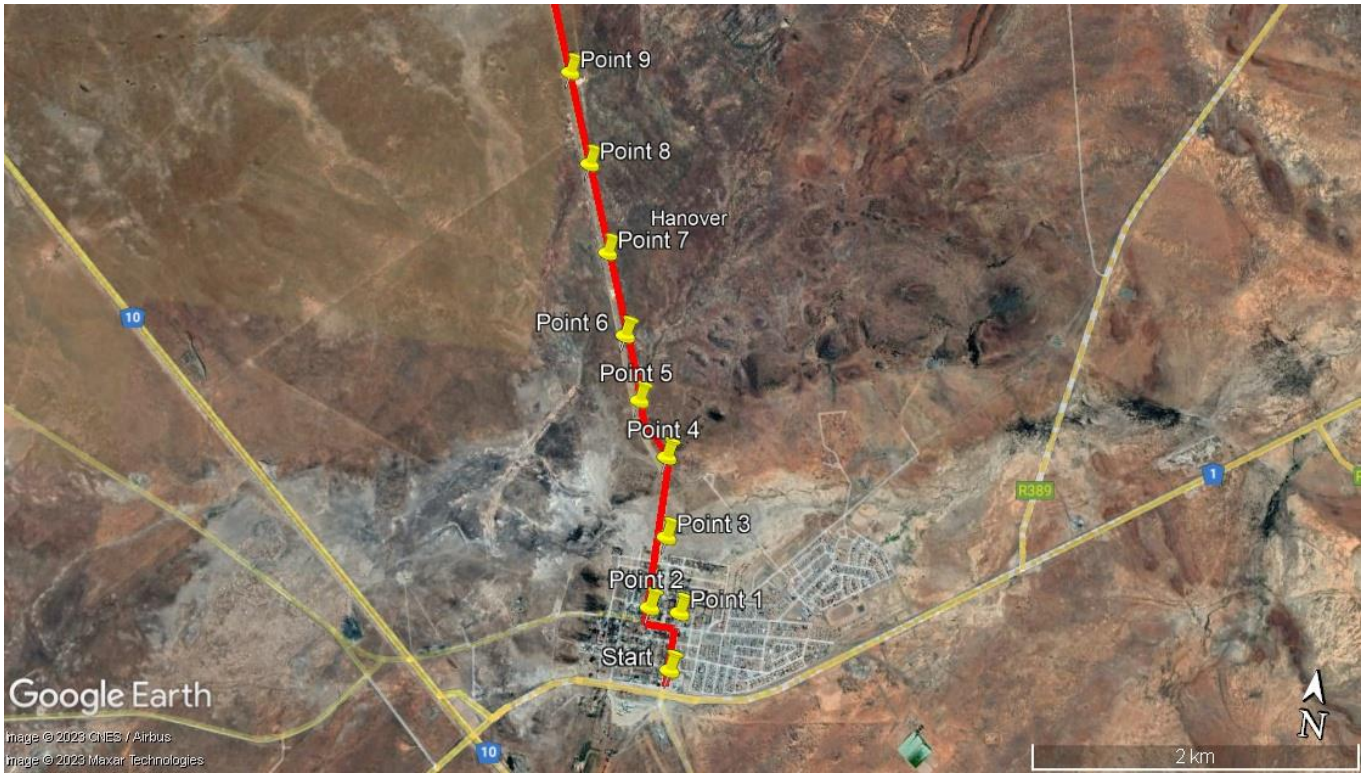


Figure 36: Alternative S2 points 1 – 9.

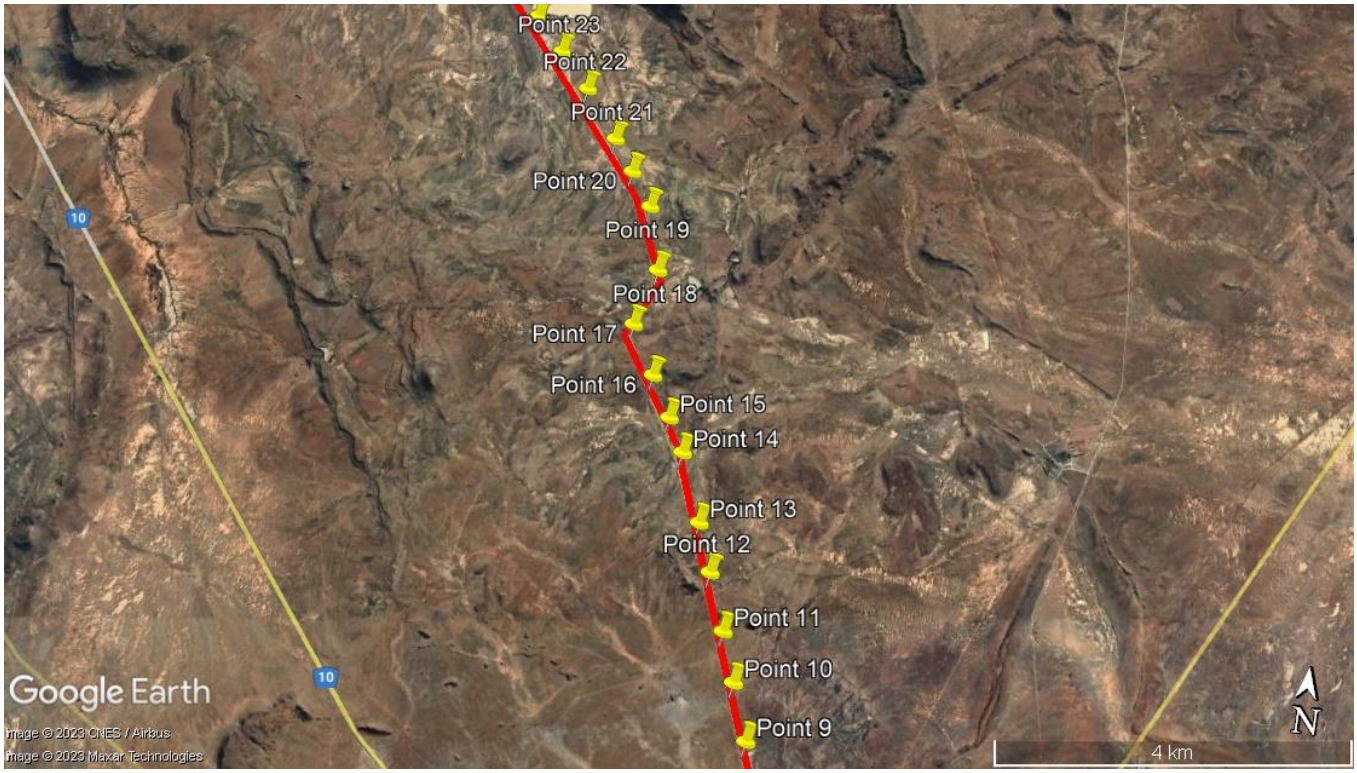


Figure 37: Alternative S2 points 10 – 23.

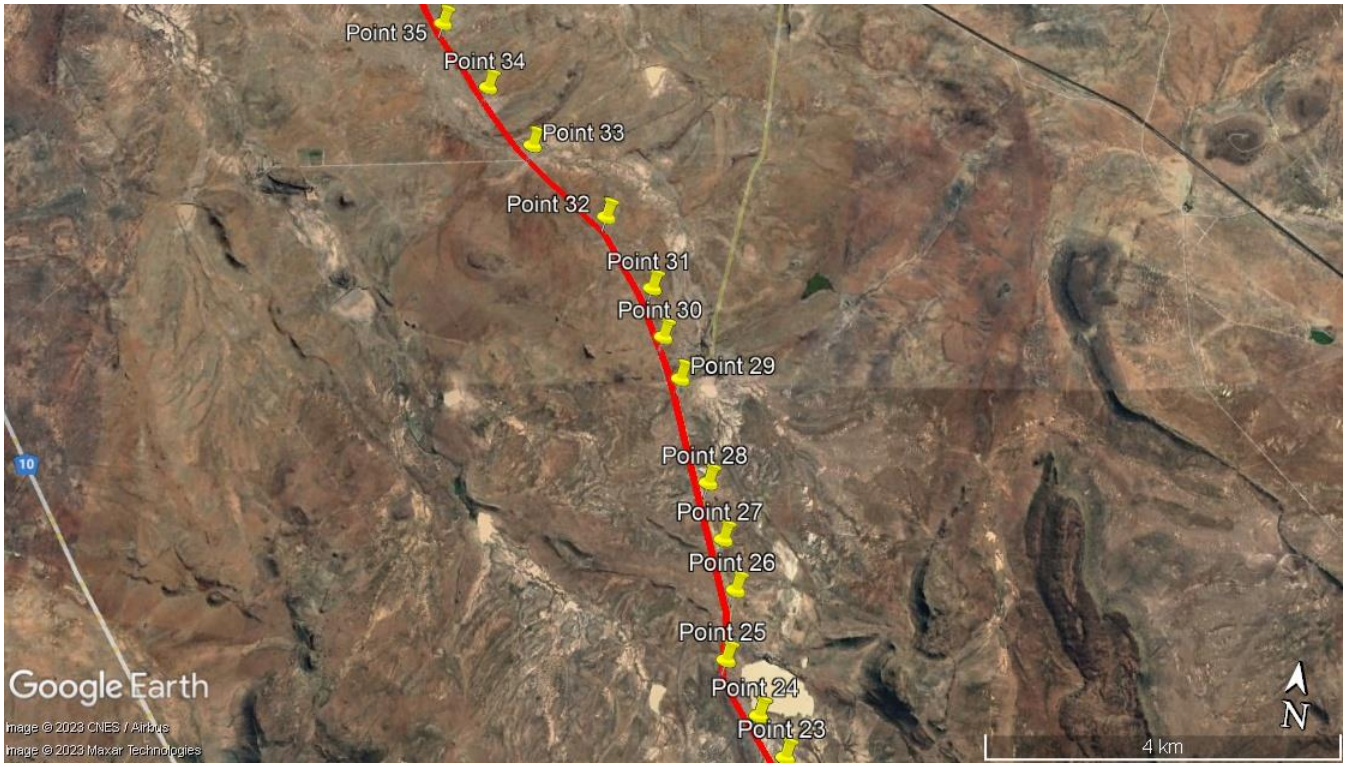


Figure 38: Alternative S2 points 24 – 35.

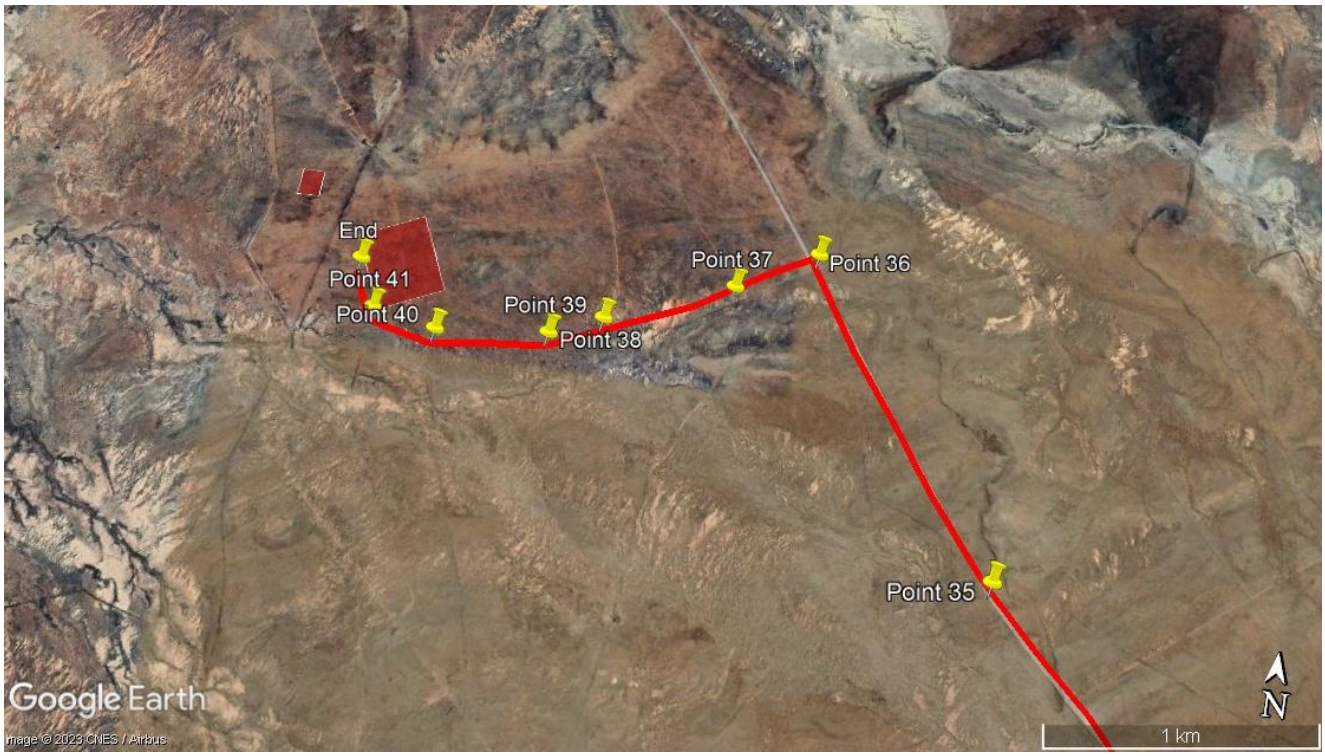


Figure 39: Alternative S2 points 35 – 41.

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 and Summaries)
Appendix D1: Air Quality
Appendix D2: Noise
Appendix D3: Aquatic
Appendix D4: Heritage
Appendix D5: Palaeontology
Appendix D6: Social -Economic
Appendix D7: Terrestrial Biodiversity
Appendix D8: Hydrology and Geohydrology
Appendix D9: Agriculture
Appendix D10: Geotechnical
Appendix D11: Traffic
Appendix D12: Visual
Appendix D13: Avifauna
Appendix E: Public Participation
Appendix E1: Advert
Appendix E2: Proof of Stakeholder Engagement
Appendix E3: Comments and Responses
Appendix E4: Proof of Organs of State Engagement
Appendix E5: List of I&AP
Appendix E6: Copies of Correspondence and Meeting Minutes
Appendix F: Impact Assessments
Appendix F1: Impact Assessment Alternatives
Appendix F2: Impact Assessment Preferred Alternative
Appendix G: Environmental Management Programme (EMPr)
Appendix H: Details of EAP and expertise
Appendix I: Specialist's declaration of interest
Appendix I1: Air Quality
Appendix I2: Noise
Appendix I3: Aquatic
Appendix I4: Heritage
Appendix I5: Palaeontology
Appendix I6: Social -Economic
Appendix I7: Terrestrial Biodiversity
Appendix I8: Hydrology and Geohydrology
Appendix I9: Agriculture
Appendix I10: Geotechnical
Appendix I11: Traffic
Appendix I12: Visual
Appendix I13: Avifauna
Appendix J: Additional Information
Appendix J1: Environmental Attributes for Preferred Alternative and Alternative
Appendix J2: Site Sensitivity Verification Report

Appendix A: Maps

Appendix B: Photographs

Photo 1: Start of the access road – N10/Burgerville public district road intersection (facing Northeast).

Photo 2: Existing public Burgerville district road (North).

Photo 3: Possible seep (and associated road failure) adjacent to the servitude of the public 'Burgerville' District Road (facing Northeast).

Photo 4: A pan adjacent to the servitude of the public 'Burgerville' District Road (facing Northwest).

Photo 5: Existing pipe culvert on the public district road section (facing Northwest).

Photo 6: View of stone-walled enclosure/kraal next to the public Burgerville district road (facing South).

Photo 7: Homestead remains next to the public Burgerville district road (facing north).

Photo 8: Start of the private section into Farm Riet Fountain No. 39C (facing Northeast).

Photo 9: Occasional Ground Squirrel burrows were observed adjacent to the existing private road (farm track) that will be widened to 11 m (facing Northeast).

Photo 10. Private road crossing/farm track over the Brak River and flood plain (facing Northeast).

Photo 11: Existing dam adjacent to the private farm track that will be upgraded (facing South-southwest).

Photo 12: Existing private farm track (North Northeast).

Photo 13: View of veld used for extensive livestock farming (merino sheep, angora goats and cattle) that will be impacted by the proposed route for the new road section (facing South west).

Photo 14: New access road into the Dx substation.

Appendix C: Facility illustration(s)

This Basic Assessment Report is for a road upgrade and there will be no facilities on site.

Please refer to **Section A 1**: Activity Description and **Appendix A**: Maps, including route plans.

Appendix D: Specialist Reports (including terms of reference and Summaries)

Appendix D1: Air Quality
Appendix D2: Noise
Appendix D3: Aquatic
Appendix D4: Heritage
Appendix D5: Palaeontology
Appendix D6: Social -Economic
Appendix D7: Terrestrial Biodiversity
Appendix D8: Hydrology and Geohydrology
Appendix D9: Agriculture
Appendix D10: Geotechnical
Appendix D11: Traffic
Appendix D12: Visual
Appendix D13: Avifauna

Appendix E: Public Participation

Appendix E1: Proof of Advertisement and Notices

Local Newspaper Advert Text

PUBLIC PARTICIPATION NOTICE OF APPLICATION FOR ENVIRONMENTAL AUTHORISATION BY WAY OF BASIC ASSESSMENT, A PART 2 AMENDMENT TO AN EXISTING ENVIRONMENTAL AUTHORISATION AND AN INTERGRATED WATER USE LICENSE

Notice is hereby given in accordance with Chapter 6 of the Environmental Impact Assessment Regulations, 2014 as amended and section 47D of the National Environmental Management Act (Act 107 of 1998) as amended, of an application for Environmental Authorisation (EA) and Part 2 amendment to an existing Environmental Authorisation, as well as an Integrated Water Use License (IWULA) in terms of the National Water Act (Act 36 of 1998).

Description of the activity & water uses

The Sun Central Cluster 1 solar photovoltaic (PV) project requires additional environmental and water use authorisations to help ensure the successful implementation of the project. The additional activities and authorisations include:

1. Additional access road upgrades leading to the Main Transmission Sub-station (MTS) will result in "triggering" additional Listed & Specified Activities not currently included in the existing Environmental Authorisation, necessitating application for additional EA by way of a Basic Assessment.

2. Electricity generated by the Solar PV Facility will be connected to the national grid, using Loop-In, Loop-Out (LILO) into the existing 400 kV Eskom transmission powerline closest to the MTS (known as Line 2), but provision needs to be made to allow LILO into Line 1, a parallel Eskom transmission line approximately 2.5 kms away from Line 2. This additional transmission line forms part of the Part 2 Amendment.

3. Due to the size of the MTS, local supply of ready-mix concrete will no longer be feasible. The Part 2 amendment will include on-site concrete batching and an additional contractor laydown.

4. Finally, application will be made to consolidate all the current water uses authorised under General Authorisation into an Integrated Water Use License. Additional water uses will be added into the IWULA for road building activities within the DWS regulated area of a watercourse, as well as the provision of additional water, by way of groundwater, to ensure adequate water provision for the road upgrades and on-site concrete batching activities.

Location

The proposed location is on Portion 6 of Farm Leuwe Fontein 27C, The Remainder of Farm Riet Fontein 39C, Portion 1, 6 and the Remainder of Farm Kwanselaars Hoek 40C, Portion 4 of Farm Taaibosch Fontein 41C, Remainder of Blaauwbosch Kuilen Outspan No. 37; Remainder of Barends Kuilen No. 38, and Portion 1 of Farm No. 56 all within the Emthanjeni Local Municipality, Pixley Ka Seme District Municipality, Northern Cape Province, South Africa. Affected road reserves (for public road sections of the proposed access road) include the intersection of the N10 with the District 'Burgerville' (2448) turn-off, and a 5.2 km section of the District 'Burgerville' (2448) road.

Environmental Authorisation

An application for the EA (& the amendment) will be submitted to the National Department of Forestry, Fisheries and the Environment (DFFE) and/or the Northern Cape Department of Agriculture, Environmental Affairs, Rural

Development and Land Reform (NCDEA) in terms of the EIA Regulations, 2014 as amended to undertake the following listed & specified activities:

Listing Notice 1 (GN No. 983, 4/12/2014) as amended:

• Activity number 12, 19, 24, 48 & 56.

Listing Notice 3 (GN No. 985, 4/12/2014) as amended:

• Activity number 4, 14, 18, 23 & 26.

Water Use

Section 21 water uses will be applied for in terms of the Water Use License Application and Appeals Regulations (GN No. R.267, 24 March 2017), through the Responsible Authority (Department of Water & Sanitation: Orange Proto Catchment Management Agency) for:

(a) – taking of water, (b) – storing of water, (c) – impeding or diverting the flow of water in a watercourse, (e) – engaging in a controlled activity, (i) - altering the bed, banks, course or characteristics of a watercourse; and (g) - disposing of waste in a manner which may detrimentally impact on a water resource.

For further information and/or to be registered as an interested and affected party (I&AP), please submit in writing your name, contact details including postal and email address, and interest in the matter to the contact person and in the manner(s) provided below, at your earliest convenience. Date of publication of this notice: **24 November 2022.**

Written objections relating to the application for the Water Use License must be lodged within 60 days of this notice, no later than **14 February 2023.**

Applicant: SolarAfrica Sun Central 1 (Pty) Ltd

Consultant: Ecoleges Environmental Consultants

Contact person: Ms Shannon Farnsworth Cell: 072 654 8202 Fax: 086 697 9316, e-mail: shannon@ecoleges.co.za, PO Box 516, Machadodorp, 1170, www.ecoleges.co.za

Local Newspaper Advert (published 24th November 2022 in the Noordkaap Bulletin)

Vakadviseur vir werk vereer

HELENA BARNARD

'n Vakadviseur verbonde aan die Noord-Kaapse departement van onderwys, Jeremy Claassen, het 'n nasionale eerbewys as die beste Woorde open Wêreldе (WOW)-onderwyser van die jaar ontvang.

Hy het dié gesogte eerbewys op 10 November tydens die Toyota Universiteit van Stellenbosch Woordfees in die Elkestad ontvang.

Claassen, werksaam in die Z.F. Mgcawu-distrik in Upington, het die eerbewys vir sy betrokkenheid by die WOW-spelkompetisies ontvang, waarby hy reeds tien jaar betrokke is.

Voor sy amp as vakadviseur was hy vir dekades in die onderwys en het hoofsaaklik Engels as skoolvak aangebied.

"Regte spelling help 'n kind om akademies beter te presteer, en om beter te verstaan. Dit speel 'n groot rol in die ontwikkeling van 'n leerling se potensiaal om naskoolse opleiding te ondergaan en 'n waardige, suksesvolle landsburger te word, en 'n selfversekerde taalgebruiker te wees."

Hy is van mening dat die samelewing op die verstaan, praat en skryf van taal berus.

Volgens hom het sosialemediaplatforms en selfone tot swakker taalgebruik en spelling bygedra, en het hy besluit om betrokke te raak.

Die Covid-19-pandemie het die aanbied van die kompetisies onderbreek, maar van 2023 af gaan dit weer voluit in die Noord-Kaap vir leerlinge van gr. 1 tot gr. 10 aangebied word – in Afrikaans, Engels en Xhosa.

Jeremy Claassen en sy vrou, Myra. FOTO: VERSKAF

Henry Lekwate by enkele van sy skilderye. FOTO'S: HELENA BARNARD

Skilder (84) verf steeds (sy) drome

HELENA BARNARD

Hy is as "Galeshewe se skilder" bekend, en het van kleins af met sy vinger op die grond geteken.

"My hand het gejeuk; ek wou net teken," vertel Henry Lekwate (84) in sy huis in Vergenoeg, Kimberley.

Van sy kunswerke oor die jare heen het 'n ereplek teen die mure gekry; van die ander is spesiaal vir die besoek uitgepak.

Met kleur, die vasvang van beweging, en detail wat fyn waarneming weerspieël, het Lekwate sy hartsgoed met olieverf op hoofsaaklik hardebord verewig.

Kimberley se Groot Gat en treine – dit was nog altyd sy gunsteling-onderwerpe om te skilder. Ook die skilderye van sy waarnemings van openbare geboue, kerke, busse en plekke wat hy en sy vrou, Sylvia, al besoek het, vertel elk 'n eie storie én gee geskiedenis weer.

"Ek het die skilderye bale lief," vertel Lekwate. "Ek voel gelukkig as ek die kwas in die hand het. My hand is nog gesond. My oë is reg. My gedagtes is nog reg."

Lekwate, wat tot die destydse st. 8 skoolgegaan het, het ná skool tydelik in Johannesburg gaan werk, waarna hy teruggekeer het na Kimberley om by die spoorweë te werk.

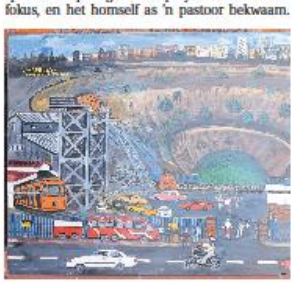
Hy kon nie anders as om terug te keer Kimberley toe nie.

"Die son en die koue van Kimberley het ons van kleins af gebrand. Ons het ons plek lief," sê hy.

Vir die sewe jaar wat hy by die spoorweë gewerk het, het hy om 03:00 opgestaan en kort daarna Beaconsfield toe begin stap om 07:00 by die werk te wees. Ná werk het hy weer teruggestap.

"My pa het nooit met busse of taxis gery nie. Hy het net geloop," vertel sy dogter Deborah.

In 1977 het hy besluit om sy werk by die spoorweë op te gee om op sy skilderwerk te fokus, en het homself as 'n pastoor bekwaam.



'n Deel van een van Henry Lekwate se skilderye van die Groot Gat. FOTO: HELENA BARNARD

Sylvia en Henry Lekwate by die bordjie wat hom as "Galeshewe se skilder" identifiseer.

Hoewel hy gelukkig gevoel het om meer te kon skilder, het die fett dat hy nie 'n voertuig gehad het nie, die verkope van sy werke bemoeilik.

Maar dit het hom nie gekeer om steeds sy liefde vir skilder uit te leef nie.

Hy het bale hutse beskilder; en ook muurskilderye en geestelike skilderye gedoen – onder meer bantere en vlae vir kerke en verenigings.

Lekwate verf ook wat hy noem "spirituele lappe" waar hy 'n persoon se droom wat aan hom vertel is, weergee. Dit koppel hy dan altyd aan 'n Bybelteks.

Om homself as geestelike leier te bekwaam, het hy drie Bybelskole bygewoon: die eerste een was die destydse Kimberley Bible Training School, daarna een in Oos-Londen, en toe in KwaZulu-Natal.

As 'n pastoor het hy en Sylvia bykans oor die hele land met treine en busse rondgery.

Tydens dié reise het hy in sy boekie sketse gemaak van wat hy gesien het om later te skilder.

Wanneer hy besig is om te skilder, sien hy egter die prentjie in sy gedagtes.

Deborah vertel as haar pa teken, is hy binne in die plek wat hy teken, en hy werk met aandag.

Sy aanvanklike skets of die buitelyne sal hy met vuurhoutjiestokkies trek.

"Ons het swaargekry, maar ons het ook dankie vir die papbrandsels gesê," vertel Sylvia oor die lewensreis wat sy en Lekwate al vir 65 jaar saam loop.

"Armoede het my nie swak gemaak nie," sê Lekwate, en vertel van die bord met die woorde "Arm maar tevrede" wat hy vir die voorkant van die huis geteken het, en wat die gesin se motto is.

Hy en Sylvia, wat 'n kunstenaar in ete reg met 'n hekelpen is, het drie kinders – Isaiah, Valerie en Deborah. Hulle het sewe kleinkinders en vyf agterkleinkinders.

Lekwate se raad vir jonger geslagte is: "Wees gelukkig in die lewe en doen wat jy moet doen wat goed is. Moenie kwaad doen nie.

"Vra die Allerhoogste om te help. As ons nie die Here vra nie, sal ons niks kry nie.

"Die lewe is reg. Ek voel gelukkig. Ek moet die een daar bo dankie sê. Hy het ons gespaar," sê Lekwate, en neem sy verfkwas op.

PUBLIC PARTICIPATION NOTICE OF APPLICATION FOR ENVIRONMENTAL AUTHORISATION BY WAY OF BASIC ASSESSMENT, A PART 2 AMENDMENT TO AN EXISTING ENVIRONMENTAL AUTHORISATION AND AN INTEGRATED WATER USE LICENSE

Notice is hereby given in accordance with Chapter 6 of the Environmental Impact Assessment Regulations, 2014 as amended and section 47D of the National Environmental Management Act (Act 107 of 1998) as amended, of an application for Environmental Authorisation (EA) and Part 2 amendment to an existing Environmental Authorisation, as well as an Integrated Water Use License (IWULA) in terms of the National Water Act (Act 36 of 1998).

Description of the activity & water uses
The Sun Central Cluster 1 solar photovoltaic (PV) project requires additional environmental and water use authorisations to help ensure the successful implementation of the project. The additional activities and authorisations include:

1. Additional access road upgrades leading to the Main Transmission Sub-station (MTS), due to the size and weight of the MTS transformers and associated delivery vehicles and to ensure compliance with Eskom minimum road specifications. The required road upgrades will result in "triggering" additional Listed & Specified Activities not currently included in the existing Environmental Authorisation, necessitating application for additional EA by way of a Basic Assessment.
2. Electricity generated by the Solar PV Facility will be connected to the national grid, using Loop-in, Loop-Out (LILO) into the existing 400 kV Eskom transmission powerline closest to the MTS (known as Line 2), but provision needs to be made to allow LILO into Line 1, a parallel Eskom transmission line approximately 2.5 kms away from Line 2. This additional transmission line forms part of the Part 2 Amendment.
3. Due to the size of the MTS, local supply of ready-mix concrete will no longer be feasible, and on-site batching will be required. So, the Part 2 amendment will also include on-site concrete batching, which was not included in the original scope of the project. Furthermore, an additional contractor laydown will be required, as provision needs to be made for multiple contractors during the construction phase, as well as changes to Operational & Maintenance (O&M) facilities, which need to accommodate more than one Independent Power Producer (IPP).
4. Finally, application will be made to consolidate all the current water uses authorised under General Authorisation into an Integrated Water Use License. Additional water uses will be added into the IWUL A for road building activities within the DWS regulated area of a watercourse, as well as the provision of additional water, by way of groundwater, to ensure adequate water provision for the road upgrades and on-site concrete batching activities.

Location
The proposed location is on Portion 6 of Farm Leuwe Fontein 27C, The Remainder of Farm Riet Fontein 39C, Portion 1, 6 and the Remainder of Farm Kwanselaars Hoek 40C, Portion 4 of Farm Taaiboach Fontein 41C, Remainder of Baauw bosch Kuilen Outspan No. 37, Remainder of Barends Kuilen No. 38, and Portion 1 of Farm No. 56 all within the Emthanjeni Local Municipality, Pixley Ka Seme District Municipality, Northern Cape Province, South Africa. Affected road reserves (for public road sections of the proposed access road) include the intersection of the N10 with the District 'Burgerville' (2448) turn-off, and a 5.2 km section of the District 'Burgerville' (2448) road.
Environmental Authorisation
An application for the EA (and the amendment) will be submitted to the National Department of Forestry, Fisheries and the Environment (DFFE) and/or the Northern Cape Department of Agriculture, Environmental Affairs, Rural Development and Land Reform (NCDEA) in terms of the EIA Regulations, 2014 as amended to undertake the following listed & specified activities:

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- Activity number 12, 19, 24, 48 &56.

Listing Notice 3 (GN No. 985, 4 December 2014) as amended:
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Section 21 water uses will be applied for in terms of the Water Use License Application and Appeals Regulations (GN No. R.267, 24 March 2017), through the Responsible Authority (Department of Water & Sanitation: Orange Prdo Catchment Management Agency) for:
- Section 21 (a) – taking of water,
- Section 21 (b) – storing of water,
- Section 21 (c) – impeding or diverting the flow of water in a watercourse,
- Section 21 (e) – engaging in a controlled activity,
- Section 21 (i) - altering the bed, banks, course or characteristics of a watercourse; and
- Section 21 (g) - disposing of waste in a manner which may detrimentally impact on a water resource.

For further information and/or to be registered as an interested and affected party (I&AP), please submit in writing your name, contact details including postal and email address, and interest in the matter to the contact person and in the manner(s) provided below, at your earliest convenience. Date of publication of this notice: **24 November 2022.**

Written objections relating to the application for the Water Use License must be lodged within 60 days of this notice, no later than **14 February 2023.**

Applicant: Solar Africa Sun Central 1 (Pty) Ltd
Consultant: Ecologes Environmental Consultants
Contact person: Ms Shannon Farnsworth Cell: 072 654 8202 Fax: 086 697 9316, e-mail: shannon@ecologes.co.za, PO Box 516, Machadodorp, 1170, www.ecologes.co.za

POPIA Disclaimer: Kindly be advised that should you submit written comments or attend meetings, your name will be placed on the register, unless requested otherwise. If you are an organ of state which has jurisdiction in respect of the activity, then we are required in terms of EIA Regulation 42 to record your name, contact details and address in a register of interested and affected parties, as well as a disclosure of any direct business, financial, personal or other interest which you may have in the approval or refusal of the application, in terms of EIA Regulation 43(1). Your personal information will be stored on a secure server explicitly for the public participation process (PPP) associated with this project but shall be retained indefinitely for historical and/or research purposes. Other recipients of your personal information include registered I&APs, the competent authority and applicant or holder of the environmental authorisation. Your participation in the PPP is voluntary. However, failure to supply the said information or incomplete information may impact your eligibility as a registered I&AP and opportunity to comment on reports and plans. For more information about the Protection of Personal Information Act, 2013 (POPIA), including your Section 5 Rights as a data subject, visit www.popia.co.za.

Local Newspaper Advert (published 25th November 2022 in the Volksblad)

GALESHEWE SE SKILDER

Kunstenaar verf nog sy drome

'Spirituele lappe' aan teksverse gekoppel

Helena Barnard

Hy is as "Galeshewe se skilder" bekend en het van kleins af met sy vinger op die grond geteken.

"My hand het gejeuk; ek wou net teken," vertel Henry Lekwate (84) in sy huis in Vergenoeg, Kimberley.

Van sy kunswerke het oor die jare heen 'n ereplek teen die mure gekry; van die ander is spesiaal vir die besoek uitgepak.

Met kleur, die vasvang van beweging, asook detail wat fyn waarneming weerspieël, het Lekwate sy hartsgoed met olieverf op hoofsaaklik hardebord verewig.

Kimberley se Groot Gat en treine was nog altyd sy gunsteling-onderwerpe om te skilder. Ook die skilderye van sy waarnemings van openbare geboue, kerke, busse en plekke wat hy en sy vrou, Sylvia, al besoek het, vertel elk 'n eie storie én gee die geskiedenis weer.

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Hy kon nie anders as om terug te keer Kimberley toe nie.

"Die son en die koue van Kimberley het ons van kleins af gebrand. Ons het ons plek lief," sê hy.

In die sewe jaar dat hy by die spoorweë gewerk het, het hy om 03:00 opgestaan en kort daarna Beaconsfield toe begin stap om 07:00 by die werk te wees. Ná werk het hy weer teruggestap.

"My pa het nooit met busse of taxi's gery nie. Hy het net geloop," vertel sy dogter Deborah.

In 1977 het hy besluit om sy werk by die spoorweë prys te gee om hom op sy skilderwerk toe te spits. Hy het homself ook as 'n pastoor bekwaam.

Hoewel hy gelukkig gevoel het om meer te kon skilder, het die feit dat hy nie 'n voertuig gehad het nie, die verkope van sy werke bemoeilik.

Maar dit het hom nie gekeer om steeds sy liefde vir skilder uit te leef nie.

Hy het baie huise beskilder; en ook muurskilderye en geestelike skilderye gedoen – onder meer baniere en vlae vir kerke en verenigings.

Lekwate verf ook wat hy noem "spirituele lappe", waarop hy in verf die drome weergee wat mense aan hom vertel. Dit koppel hy dan altyd aan 'n Bybelteks.

Om homself as geestelike leier te bekwaam, het hy drie Bybelskole bygewoon. Die eerste een was die destydse Kimberley Bible Training School, daarna een in Oos-Londen, en toe in KwaZulu-Natal.

In sy omswerwinge as 'n pastoor het hy en Sylvia bykans oor die hele land met treine en busse rondgery.

Op dié reise het hy dan in sy boekie sketse gemaak van wat hy gesien het om dit later te skilder.

Wanneer hy besig is om te skilder, sien hy egter steeds die prentjie in sy gedagtes.

Deborah vertel as haar pa teken, is hy binne-in die plek wat hy teken, en hy werk met aandag.

Sy aanvanklike skets of die buitelyne sal hy met vuurhoutjiestokkies trek.

"Ons het swaargekry, maar ons het ook dankie vir die papbrandsels gesê," vertel Sylvia oor die lewenspad wat sy en Lekwate al 65 jaar saam loop.

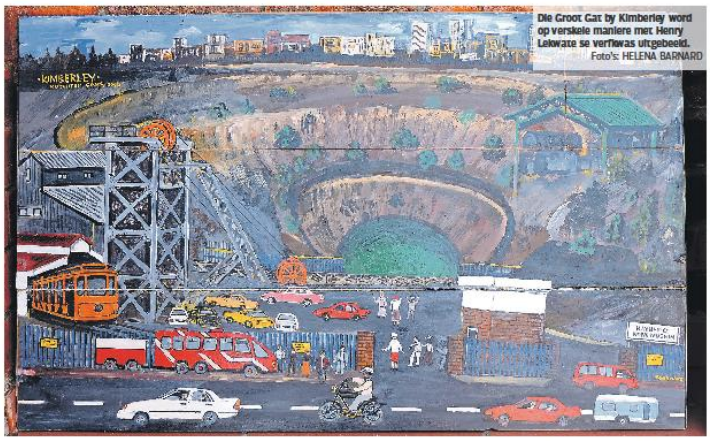
"Armoede het my nie swak gemaak nie," sê Lekwate, en vertel van die bord met die woorde "Arm, maar tevrede" wat hy vir die voorkant van die huis gemaak het, en wat die gesin se motto is.

Hy en Sylvia, wat 'n kunstenaar in eie reg met 'n hekelpen is, het drie kinders – Isaiah, Valerie en Deborah. Hulle het sewe kleinkinders en vyf agterkleinkinders.

Lekwate se raad vir jonger geslagte is: "Wees gelukkig in die lewe en doen wat jy moet doen wat goed is. Moenie kwaad doen nie.

"Vra die Allerhoogste om te help. As ons nie die Here vra nie, sal ons niks kry nie.

"Die lewe is reg. Ek voel gelukkig. Ek moet vir die Een daar bo dankie sê. Hy het ons gespaar," sê Lekwate, en neem sy verfkwas op.



Die Groot Gat by Kimberley word op verskeie maniere met Henry Lekwate se verfkwas uitgebeeld. Foto's: HELENA BARNARD

Henry Lekwate en sy vrou, Sylvia, voor hul huis in Vergenoeg, met die naambord wat Lekwate as "Galeshewe se skilder" aandui.

Henry Lekwate by van sy skilderye.

Geklassifiseerd

REGSKENNISGEWINGS & TENDERS

HOOFBEVELE/ SEKWESTRASIES/ LIKWIDASIES

HENDRE CONRADIE INC
IN THE HIGH COURT OF SOUTH AFRICA
FREE STATE DIVISION, BLOEMFONTEIN
Case No: 3672/2022
Before the Honourable Justice C REINDERS
On the 27th day of OCTOBER 2022
In the matter between:
ANDREW MCBRYDE MARTIN - Applicant
and
MUHAMMAD HAFFEJEE - 1ST Respondent
MARIAM HAFFEJEE N.O. 2nd Respondent
MEHMOOD HAFFEJEE 3rd Respondent
KHALIL REHMAN HAFFEJEE - 4th Respondent
MASTER OF THE HIGH COURT DURBAN - 5th Respondent
MASTER OF THE HIGH COURT PIETERMARITZBURG - 6th Respondent
REGISTRAR OF DEEDS: BLOEMFONTEIN - 7th Respondent
Having considered the documents filed of record and having heard the legal practitioner/s,
IT IS ORDERED THAT:
1. A rule nisi be issued calling upon the Respondents and all other interested parties to show cause on the **8th day of December 2022 at 09:30** or so soon thereafter as counsel may be heard why an order in the following terms should not be made final:
1.1 **THAT** the Deed of Transfer No. 10615/2020 annexed to the founding affidavit hereto, and marked **"E"**, be cancelled in terms of Section 6 of the Deeds Registries Act 47 of 1937 ("the Act");
1.2 **THAT** following the cancellation of the Deed of Transfer No. T10615/2020, the Seventh Respondent is directed to revive the Deed of Transfer number T4943/1992, and cancel the relevant endorsement thereon evidencing the registration of the transfer of the properties, to reflect that Nazeer Ahmed Haffejee is the registered owner of the following properties:
1.2.1 Erf 211 Marquard, District Marquard, province Free State, Extent 595 square meters; and
1.2.2 Erf 212 Marquard, district Marquard, Province Free State, Extent 595 square metres, ("the Properties"),
1.3 **THAT** the Fifth Respondent is directed to appoint the Applicant as the Executor of Estate Late Nazeer Ahmed Haffejee, subject to compliance with the provisions of the Administration of Estates Act 66 of 1965,
1.4 **THAT** the Applicant is authorised to do any and all things necessary and sign all documents that may be required in law to give effect to the order granted by this Honourable Court;
1.5 **THAT** the First Respondent be and is hereby ordered to:
1.5.1 Deliver to the Applicant certified copies of his identity document and proof of his residence to comply with the Applicant's conveyancing requirements within ten days of the service of this order on him; and
1.5.2 Sign all documents required by the Applicant's Conveyancer to be signed for the purpose completing the transfer of the aforesaid properties to the First Respondent within ten days of being requested by the Applicant's conveyancer, to do so.
1.6 **THAT** in the event that the First Respondent fails to comply with the orders in 1.5.1 and 1.5.2, the Sheriff of the Court, Pinetown, be and is authorised and ordered to sign all documents that may be required by the Applicant's Conveyancer to be signed by the First Respondent.
1.7 **THAT** the Estate late Mahomed Amin Haffejee no. 6709/2021 be and is hereby ordered to pay:
1.7.1 The costs of incurred for the appointment of the Applicant as the Executor of the Estate Nazeer Ahmed Haffejee and the discharge of his duties as the Executor; and
1.7.2 The conveyancing costs that will be incurred in the transfer from the Estate Late Nazeer Ahmed Haffejee to the First Respondent; and
1.7.3 The costs of this application on the scale as between attorney and own client.
2. The Applicant is directed, insofar as ascertaining the identity of the interested parties referred to in paragraph 1, to publish a copy of the rule nisi on or before the **8th day of December 2022:**
2.1 Once in the Government Gazette;
2.2 Once in a daily newspaper published in Durban and circulating in KwaZulu-Natal and
2.3 Once in a daily newspapers published in Bloemfontein and circulating in the Free State.
BY ORDER OF THIS COURT
COURT REGISTRAR
HENDRE CONRADIE INC.
HONEY ATTORNEYS
MARTIN LAW INC
Applicant's Attorney
41 Westville Road
WESTVILLE
Ref: HAF2/0005/AM
Tel: 031 266 1588
Mobile: 082 747 0820
Email: andrew@martinlaw.co.za
Locally represented by
HENDRE CONRADIE INC
119 Pres Reitz Avenue
Westdene Bloemfontein
9300 Ref: MAR21/0001
Tel: 051 506 2551
Email: e-service@rossouws.com
MAR21/0001 CJHC/AB
NOV 25(R)4005

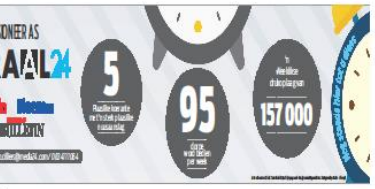
OIS ONGEWIGSIMPAKSTUDIE

PUBLIC PARTICIPATION NOTICE OF APPLICATION FOR ENVIRONMENTAL AUTHORISATION BY WAY OF BASIC ASSESSMENT, A PART 2 AMENDMENT TO AN EXISTING ENVIRONMENTAL AUTHORISATION AND AN INTERGRATED WATER USE LICENSE
Notice is hereby given in accordance with Chapter 6 of the Environmental Impact Assessment Regulations, 2014 as amended and section 47D of the National Environmental Management Act (Act 107 of 1998) as amended, of an application for Environmental Authorisation (EA) and Part 2 amendment to an existing Environmental Authorisation, as well as an Integrated Water Use License (IWULA) in terms of the National Water Act (Act 36 of 1998).
Description of the activity & water uses
The Sun Central Cluster 1 solar photovoltaic (PV) project requires additional environmental and water use authorisations to help ensure the successful implementation of the project. The additional activities and authorisations include:
1. Additional access road upgrades leading to the Main Transmission Sub-station (MTS) will result in "triggering" additional Listed & Specified Activities not currently included in the existing Environmental Authorisation, necessitating application for additional EA by way of a Basic Assessment.
2. Electricity generated by the Solar PV Facility will be connected to the national grid, using Loop-In, Loop-Out (LILO) into the existing 400 kV Eskom transmission powerline closest to the MTS (known as Line 2), but provision needs to be made to allow LILO into Line 1, a parallel Eskom transmission line approximately 2.5 kms away from Line 2. This additional transmission line forms part of the Part 2 Amendment.
3. Due to the size of the MTS, local supply of ready-mix concrete will no longer be feasible. The Part 2 amendment will include on-site concrete batching and an additional contractor laydown.
4. Finally, application will be made to consolidate all the current water uses authorised under General Authorisation into an Integrated Water Use License. Additional water uses will be added into the IWULA for road building activities within the DWS registered area of a watercourse, as well as the provision of additional water, by way of groundwater, to ensure adequate water provision for the road upgrades and on-site concrete batching activities.
Location
The proposed location is on Portion 6 of Farm Lauwra Fontein 27C, The Remainder of Farm Riet Fontein 39C, Portion 1, 4 and the Remainder of Farm Kwaneilaars Hoek 40C, Portion 4 of Farm Taaibosch Fontein 41C, Remainder of Blaauwbosch Kuilen Outspan No. 57, Remainder of Barends Kuilen No. 38, and Portion 1 of Farm No. 56 all within the Enthanjeni Local Municipality, Pixley Ka Seme District Municipality, Northern Cape Province, South Africa. Affected road reserves (for public road sections of the proposed access road) include the intersection of the R10 with the District 'Bargeville' (2448) road, and a 5.2 km section of the District 'Bargeville' (2448) road.
Environmental Authorisation
An application for the EA (& the amendment) will be submitted to the National Department of Forestry, Fisheries and the Environment (DFFE) and/or the Northern Cape Department of Agriculture, Environmental Affairs, Rural Development and Land Reform (NCDEA) in terms of the EIA Regulations, 2014 as amended to undertake the following listed & specified activities:
Listing Notice 1 (GN No. 983, 4/12/2014) as amended:
• Activity number 12, 19, 24, 48 & 56.
Listing Notice 3 (GN No. 985, 4/12/2014) as amended:
• Activity number 4, 14, 18, 23 & 26.
Watar Use
Section 21 water uses will be applied for in terms of the Water Use License Application and Appeals Regulations (GN No. R.267, 24 March 2017), through the Responsible Authority (Department of Water & Sanitation: Orange-Proto Catchment Management Agency) for:
(a) - taking of water, (b) - storing of water, (c) - impeding or diverting the flow of water in a watercourse, (e) - engaging in a controlled activity, (f) - altering the bed, banks, course or characteristics of a watercourse; and (g) - disposing of waste in a manner which may detrimentally impact on a water resource.
For further information and/or to be registered as an Interested and affected party (I&AP), please submit in writing your name, contact details including postal and email address, and interest in the matter to the contact person and in the manner(s) provided below, at your earliest convenience. Date of publication of this notice: **24 November 2022**
Written objections relating to the application for the Water Use License must be lodged within 60 days of this notice, no later than **24 February 2023.**
Applicant: SolarAfrica Sun Central 1 (Pty) Ltd
Consultant: Ecolegas Environmental Consultants
Contact person: Ms Shannon Farnsworth Cell: 072 654 8262
Fax: 086 697 9316,
e-mail: shannon@ecolegas.co.za,
PO Box 516, Machadodorp, 1170,
www.ecolegas.co.za
NSB/Targerville
NOV 25(E)4044

BOEDELKENNISGEWINGS

BOEDELS: KREDITEURE EN DEBITEURE

BUITENDAG: JWD LIQUIDATION AND DISTRIBUTION ACCOUNTS IN DECEASED ESTATES LYING FOR INSPECTION
In the estate of the late: Surname: **BUITENDAG**
First names: Jan Walter Daniel
Estate Nr: 005186/2022
ID NR: 4207075049087
Date of death: 18/04/2022
Last address: 65 St Helena Crescent, Ultsig, Bloemfontein
The FIRST AND FINAL Liquidation and Distribution Account in this estate will be open for inspection for a period of 21 days from 25 November 2022 at the office of the Master of the High Court Bloemfontein and the Magistrate's Office, Bloemfontein.
In case of a marriage in community of property:
First Names and Surname of Surviving Spouse:
Elizabeth Magdalena Buitendag
ID: 4302040052082
Name and address of Executor or Authorised Agent: Juanita Botha, Pigeon hole 131 OR, PO Box 13083, Arboretum, 9305
Advertiser Name:
Juanita Botha CA(SA)
Advertiser Email:
info@juanitabotha.co.za
CELL: 0824567162
Ref: BUITENDAG
date sumbitted: 22/11/17



EXTERNAL VACANCY ADVERTISEMENT
LOCATION: KIMBERLEY

Persons interested in applying for the following post to be considered, must send their application (detailed Curriculum Vitae and certified copies of Qualifications, Driver's License and ID which are not older than 3 months – no copies of certified copies), including an application form available on the Northern Cape Provincial Legislature website: www.ncpleg.gov.za. Forms may be collected at the Northern Cape Provincial Legislature. Please quote the relevant reference number. Failure to comply with these requirements will result in the application being disqualified.

Please direct your applications to the Acting Manager: Human Capital Manager, Northern Cape Provincial Legislature, Private Bag X5066, Kimberley, 8300 or hand delivered to Northern Cape Provincial Legislature, Noberguis Est, Kimberley, 8300 to Registry for attention: Ms N Tyu or alternatively email your applications to ncpkrecruit@ncpleg.gov.za.

NCOP & PROCEEDINGS
Position: Procedural Officer (Ref: NCPL/POF/1 02022)
Remuneration Package: R 961 172.00 p.a. (C4) (Inclusive of Benefits)

Requirements:
Candidates must have a Legal or Public Administration Degree on NQF Level 7. Aminimum of 3 to 5 years' experience in Legislative and Political environment.

Competencies:
Computer Literate (MS Office Advance; Reading Comprehension; Business and Writing Skills; Active Listening; Understanding of legislative concepts and practices; Knowledge of policies and procedures and processes; Report Writing; Presentation Skills; Analytical Skills; Communication (English); Reasoning Ability; Interpersonal Skills, Critical Thinking; Time and Change Management; Ethics and Result Driven.

Duties include amongst others:
Provide the Presiding Officer other than the Speaker or Deputy Speaker with the procedural brief for each sitting of the Legislature; Check that the rules are adhered to during the sittings of the House; Coordinate the preparation of procedural documents by the Procedural Administrator according to the rules; Ensure that the Leader of Government Business is always consulted and kept informed; Liaise with the Security Manager on the sweeping of the House sitting; Check the procedural guide and documents prepared by the Procedural Administrator prior to the sitting; Track the Bill progress in the House and ensures monthly themes are debated in the House; Outline procedures to be followed during Legislative functions; Brief special delegates on procedures followed in the NCOP; Prepares and present Summary on Section 76 Legislation and Check the reports submitted or adopted by the House.

For further information and enquiries, please contact Mr CPC Haas on 083 632 3332 or via an electronic mail: chaas@ncpleg.gov.za.

Important note: In filling this position, we will be guided by the need to meet our Employment Equity Targets. The NCPL encourages People who are Differently Abled to apply. Applicants may be subjected to assessment centres. Appointment will be subjected to a compulsory pre-employment screening in the form of qualifications, references, security clearance, vetting and criminal checks. It is the applicant's responsibility to have foreign qualifications evaluated by the South African Qualification Authority (SAQA) prior to the selection process.

CLOSING DATE: 15 December 2022

If you have not received any response within three (3) months of the closing date, please consider your applications as unsuccessful. Regret correspondence will only be with the interviewed candidates.

Site Notice Text

Notice

is hereby given in accordance with Chapter 6 of the Environmental Impact Assessment Regulations, 2014 as amended and section 47D of the National Environmental Management Act (Act 107 of 1998) as amended, of an application for Environmental Authorisation and Part 2 amendment to an existing Environmental Authorisation, as well as an Integrated Water Use License in accordance with the Water Use License Application and Appeals Regulations (GN No. R. 267, 2017), in terms of the National Water Act (Act 36 of 1998)

Date of Notice: 24 November 2022

Description of activity

The Sun Central Cluster 1 solar photovoltaic (PV) project requires additional environmental and water use authorisations to help ensure the successful implementation of the project. The additional activities and authorisations include: **1.** Additional access road upgrades leading to the Main Transmission Sub-station (MTS), the required road upgrades will result in "triggering" additional Listed & Specified Activities not currently included in the existing Environmental Authorisation (EA), necessitating application for additional EA by way of a Basic Assessment**; 2.** Electricity generated by the solar PV facility will be connected to the national grid, using a Loop-In, Loop-Out (LILO) transmission line into the existing 400 kV transmission powerline closest to the MTS (known as Line 2), but provision needs to be made to allow LILO into Line 1, a parallel transmission line approximately 2.5 kms away from Line 2. This additional transmission line forms part of the Part 2 Amendment. **3.** Due to the size of the MTS, local supply of ready-mix concrete will no longer be feasible, and on-site batching will be required, which will form part of the Part 2 amendment. **4.** Finally, an application will be made to consolidate all the current water uses authorised under General Authorisation into an Integrated Water Use License. Additional water uses will be added into the IWULA for road building activities within the DWS regulated area of a watercourse, as well as the provision of additional water, by way of groundwater, to ensure adequate water provision for the road upgrades and on-site concrete batching activities.

Location of activities

The proposed location is on Portion 6 of Farm Leuwe Fontein 27C, The Remainder of Farm Riet Fontein 39C, Portion 1, 6 and the Remainder of Farm Kwanselaars Hoek 40C, Portion 4 of Farm Taaibosch Fontein 41C, Remainder of Blaauwbosch Kuilen Outspan No. 37; Remainder of Barends Kuilen No. 38, and Portion 1 of Farm No. 56 all within the Emthanjeni Local Municipality, Pixley Ka Seme District Municipality, Northern Cape Province, South Africa. Affected road reserves (for public road sections of the proposed access road) include the intersection of the N10 with the District 'Burgerville' (2448) turn-off, and a 5.2 km section of the District 'Burgerville' (2448) road.

Environmental Authorisation

An application for the EA and Part 2 amendment will be submitted to the National Department of Forestry, Fisheries and the Environment (DFFE) and/or the Northern Cape Department of Agriculture, Environmental Affairs, Rural Development and Land Reform (NCDEA) in terms of the EIA Regulations, 2014 as amended to undertake the following listed activities (as amended):

Listing Notice 1 (GN No. 983, 4 December 2014):
Listed Activity 12, 19, 24, 48 & 56
Listing Notice 3 (GN No. 985, 4 December 2014):

Listed Activity 4, 14, 18, 23 & 26

Water Use Authorisation

Section 21 water uses will be applied for in terms of the Water Use License Application and Appeals Regulations (GN No. R.267, 24 March 2017), through the Responsible Authority (Department of Water & Sanitation: Orange Proto Catchment Management Agency) for:
Section 21 (a) – taking of water, Section 21 (b) – storing of water,
Section 21 (c) – impeding or diverting the flow of water in a watercourse, Section 21 (e) – engaging in a controlled activity,
Section 21 (i) - altering the bed, banks, course or characteristics of a watercourse; and Section 21 (g) - disposing of waste in a manner which may detrimentally impact on a water resource.

Applicant:

Consultant:

Contact person:
Shannon Farnsworth

Cell: +27 (0)72 654 8202
Fax: +27 (0)86 697 9316
E-Mail: shannon@ecoleges.co.za
Postal: P.O. Box 516, Machadodorp, 1170
Website: www.ecoleges.co.za

Registration:
For further information and/or to be registered as an interested and affected party (I&AP), please submit in writing your name, contact details including address, and interest in the matter to the contact person and in the manner(s) provided above, at your earliest convenience, we shall submit the draft reports for comment at a later stage.

Written objections relating to the application for the Water Use License must be lodged within 60 days of this notice, no later than 14 February 2023.

POPIA Disclaimer:
Kindly be advised that should you submit written comments or attend meetings, your name will be placed on the register, unless requested otherwise. If you are an organ of state which has jurisdiction in respect of the activity, then we are required in terms of EIA Regulation 42 to record your name, contact details and address in a register of interested and affected parties, as well as a disclosure of any direct business, financial, personal or other interest which you may have in the approval or refusal of the application, in terms of EIA Regulation 43(1). Your personal information will be stored on a secure server explicitly for the public participation process (PPP) associated with this project but shall be retained indefinitely for historical and/or research purposes. Other recipients of your personal information include registered I&APs, the competent authority and applicant or holder of the environmental authorisation. Your participation in the PPP is voluntary. However, failure to supply the said information or incomplete information may impact your eligibility as a registered I&AP and opportunity to comment on reports and plans. For more information about the Protection of Personal Information Act, 2013 (POPIA), including your Section 5 Rights as a data subject, visit www.popia.co.za

Site Notice Board No. 1 was placed at the intersection of the N10 highway with the District road to Burgerville (Latitude: 30°52'31.61"S Longitude: 24°13'27.31"E).

Site Notice Board No. 2 was placed on the gate to portion 1 of erf 139 of farm Riet Fountain No. 39 located along the District road to Burgerville (Latitude: 30°51'16.96"S Longitude: 24°15'52.44"E).

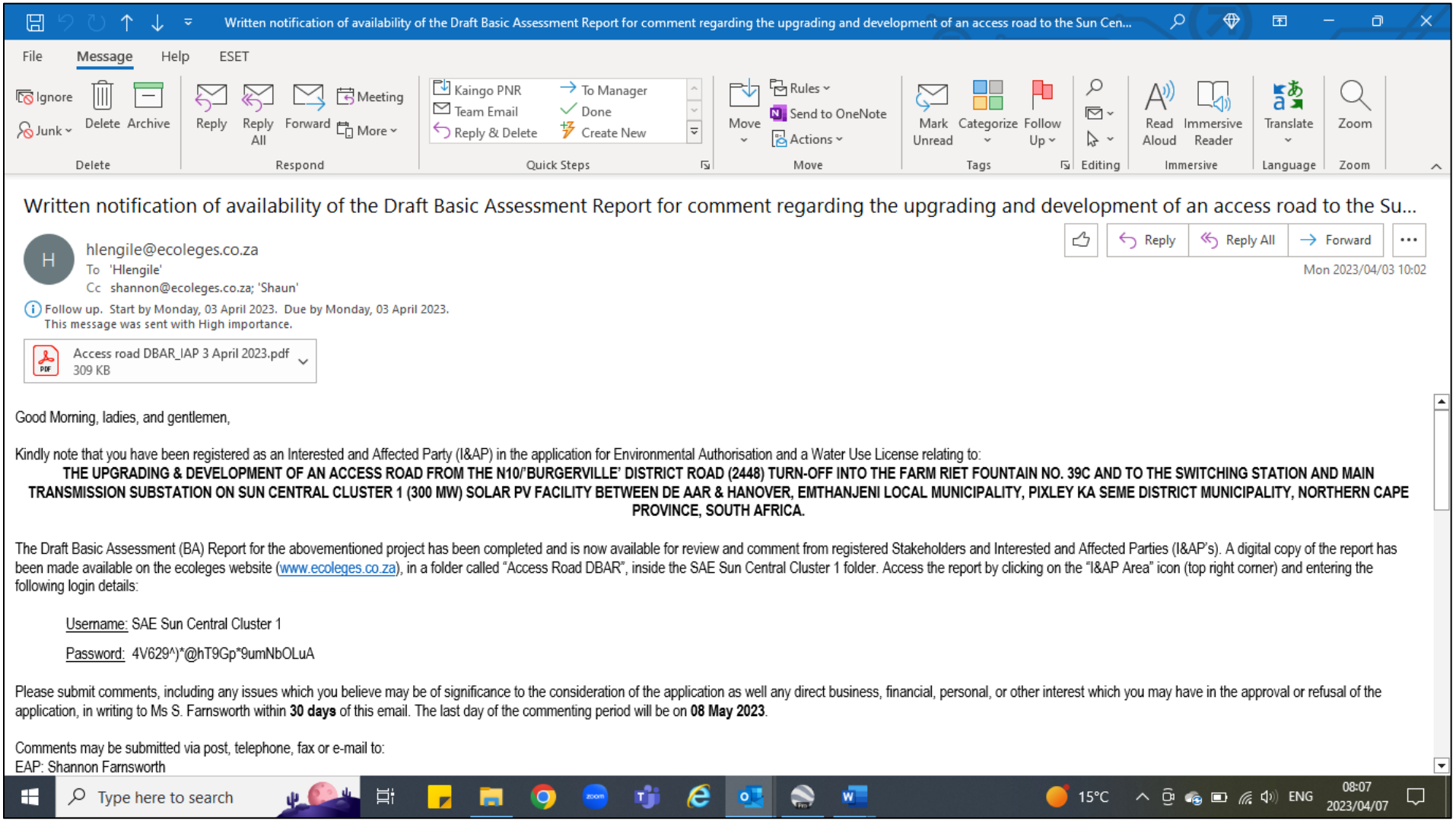
Site Notice Board No. 3 was placed on the entrance gate to Retief Geelbek Merino's De Bad Farm on portion 1 of erf 139 of farm Riet Fountain No. 39 located (Latitude: 30°50'37.25"S Longitude: 24°18'49.12"E).

Appendix E2: Proof that the key stakeholder received written notification

Name	Cell	Phone	Fax	Email	BID on 25/11/2022
APPLICANT / CLIENT (SAE)					
Karen Potgieter				karen@solarafrica.com	Out Of Office Reply (OOR) on 25/11/22
Nicoline Bredenkamp				Nicoline.Bredenkamp@solarafrica.com	Read Receipt Received (RRR) on 25/11/22
Tim Gaskell				tim.gaskell@solarafrica.com	No need to follow up, applicant.
Frank Sprung				frank.sprung@solarafrica.com	No need to follow up, applicant.
Willem Retief (Land Owner)	0829447167			wretief@webmail.co.za	RRR on 25/11/22
PUBLIC and/or NEIGHBOURING FARMS					
Remainder of FARM No. 149 (Farm Goodhope)					
Neville Vimpany	082 868 1991	041 366 1037		cathy.vimpany@yahoo.com	Son below received it.
Ricky Vimpany				richard.vimpany@bravospace.co.za	RRR on 03/12/22
Remainder of LEUWE FOUNTAIN No. 27 (Farm Leeuwfontein)					
Corneulis Oosthuizen	061 271 0268			louisa.oosthuizen25@gmail.com	No need to follow up, address below AR.
	074 114 3950			cmo.karoo@gmail.com	No need to follow up, address below AR.
				anoulizes@gmail.com	AR on 07/01/23
Portion 1,2 & 4 LEUWE FOUNTAIN No. 27 (Farm Weltevrede)					
Pieter du Toit	083 278 2590			psdutoit4@gmail.com	AR on 08/12/22
Remainder of TAAIBOSCH FONTEIN No. 41 (Farm: Constancia)					
Andries Pienaar	082 762 2206			andriespienaar@hotmail.com	Phone on voicemail.
Portion 2 & 5 TAAIBOSCH FONTEIN No. 41 (Farm: Skilpadskuil)					
Manual Orfao	082 784 1972			mcorfao@worldonline.co.za	RRR on 25/11/22
				swopshop@worldonline.co.za	No need to follow up, received on the email address above.
Portion 3 TAAIBOSCH FONTEIN No. 41					
Dawie du Plessis	083 544 4139			l.duplessis@live.com	Called on 06/01/23 - Left voicemail.
Remainder & Portion 7 &9 of KAFFERSPOORT No. 56 (Dieprivier)					
Andries Pienaar	082 762 2206			andriespienaar@hotmail.com	Phone on voicemail.
Remainder of BARENDS KUILEN No. 38 and Remainder & Portion 1 of BLAAUWBOSCH KUILEN OUTSPAN No. 37 (Farm: Blaawboschkuil)					
Christiaan Venter	082 378 3601			christiaanv@adsactive.com	RRR on 29/11/22
Requested to be registered					

Malherbe Du Toit	060 383 8058	0212763620		Du-Toit.Malherbe@abo-wind.com	AR on 28/11/22	
Petrus Scheepers	072 482 6529	0212763620		petrus.scheepers@abo-wind.com	RRR on 01/12/22	
David Nunez Blundell				david.nunez@siriuspower.co.za	RRR on 02/12/22	

Notification Email to registered I&APs of the DBAR for public comment (03 April 2023)



Written notification of availability of the Draft Basic Assessment Report for comment regarding the upgrading and development of an access road to the Sun Cen...

File Message Help ESET

Ignore Junk Delete Archive | Reply Reply All Forward Meeting More | Kaingo PNR Team Email Reply & Delete To Manager Done Create New | Move Rules Send to OneNote Actions | Mark Unread Categorize Follow Up | Read Aloud Immersive Reader | Translate | Zoom

Delete Respond Quick Steps Move Tags Editing Immersive Language Zoom

Written notification of availability of the Draft Basic Assessment Report for comment regarding the upgrading and development of an access road to the Su...

H hlengile@ecoleges.co.za

To 'Hlengile'

Cc shannon@ecoleges.co.za; 'Shaun'

Reply Reply All Forward

Mon 2023/04/03 10:02

Follow up. Start by Monday, 03 April 2023. Due by Monday, 03 April 2023.
This message was sent with High importance.

Access road DBAR_IAP 3 April 2023.pdf
309 KB

Good Morning, ladies, and gentlemen,

Kindly note that you have been registered as an Interested and Affected Party (I&AP) in the application for Environmental Authorisation and a Water Use License relating to:

THE UPGRADING & DEVELOPMENT OF AN ACCESS ROAD FROM THE N10/'BURGERVILLE' DISTRICT ROAD (2448) TURN-OFF INTO THE FARM RIET FOUNTAIN NO. 39C AND TO THE SWITCHING STATION AND MAIN TRANSMISSION SUBSTATION ON SUN CENTRAL CLUSTER 1 (300 MW) SOLAR PV FACILITY BETWEEN DE AAR & HANOVER, EMTHANJENI LOCAL MUNICIPALITY, PIXLEY KA SEME DISTRICT MUNICIPALITY, NORTHERN CAPE PROVINCE, SOUTH AFRICA.

The Draft Basic Assessment (BA) Report for the abovementioned project has been completed and is now available for review and comment from registered Stakeholders and Interested and Affected Parties (I&AP's). A digital copy of the report has been made available on the ecoleges website (www.ecoleges.co.za), in a folder called "Access Road DBAR", inside the SAE Sun Central Cluster 1 folder. Access the report by clicking on the "I&AP Area" icon (top right corner) and entering the following login details:

Username: SAE Sun Central Cluster 1

Password: 4V629^)*@hT9Gp*9umNbOLuA

Please submit comments, including any issues which you believe may be of significance to the consideration of the application as well any direct business, financial, personal, or other interest which you may have in the approval or refusal of the application, in writing to Ms S. Farnsworth within **30 days** of this email. The last day of the commenting period will be on **08 May 2023**.

Comments may be submitted via post, telephone, fax or e-mail to:
EAP: Shannon Farnsworth

Type here to search 15°C ENG 08:07 2023/04/07

Appendix E3: Comments and Response Sheet

A Summary of the Main Issues raised by Interested and Affected Parties

No main issues.

A Summary of the Response from the Practitioner to the Issues raised by the Interested and Affected Parties

No main issues.

Name of Authority informed	Comments Received as of 16 May 2023 (Yes or No)
Emthanjeni Local Municipality	NO
Pixley Ka Seme District Municipality	YES – 08 February 2023 from Infrastructure Development, Housing and Planning.
Northern Cape Department of Agriculture, Environmental Affairs, Rural Development and Land Reform	YES – 13 April 2023 from Directorate: Sustainable Resource Management
Department of Forestry, Fisheries & Environment (National)	NO
Department of Water and Sanitation (DWS) (Orange Proto Catchment Management Agency)	YES – No objection. Letter dated 19 April 2023
Department of Minerals and Resources and Energy (DMRE)	Section 53 Application submitted online on 21 February 2023
Department of Roads & Public Works	YES – 13 February 2023
South African National Road Agency (SANRAL)	YES - 17 January 2023
South African Heritage Resources Agency (SAHRA)	YES – Letter dated 05 May 2023 and 15 May 2023

South African Civil Aviation Authority (SACAA)	YES – 27 February 2023 from Air Traffic and Navigation Services
SALT (South African Large Telescope)	No
South African Radio Astronomy Observatory (SARAO) – SKA and MeerKAT	Yes – No objection. Letter dated 15 March 2023

Date of comment **Format of comment** **Name of organization/I&AP**	**Comment**	**Response from EAP/Applicant/Specialist**
25 November 2022 Email Cobus Theron Senior Conservation Manager Endangered Wildlife Trust (EWT)	Dear Hlengile, Please can you send us shapefiles for this development. Regards, Cobus Theron EWT	Email dated Saturday, 26 November 2022 at 14:26 Good afternoon, Cobus Thank you so much for your interest in this project and prompt engagement. We are just kicking off with the project and the Public Participation Process is amongst our initial suite of tasks. To this effect, we do not have many shapefiles to share with you now, other than the **proposed** routes for the access road and 400 kV overhead transmission line (attached). The first *three* attachments relate to the 400 kV overhead transmission line, whereas the next *four* attachments relate to the Access Road: - the corridor covered by the drone scan (attached as A4) covers the likely route for the access road, and - the MTS is not part of this project (as it has already been authorised). I have attached it only to provide context, specifically where the transmission line will start from.

		Please do not hesitate to contact us again for more shapefiles once we distribute the specialist reports with the draft Basic Assessment Report. Thank you and keep strong. Yours sincerely, Shaun MacGregor
09 December 2022 Email Pieter Swart Regional Manager: Mineral Regulation Department of Mineral Resources and Energy (DMRE)	Good Day, Your e mail dated 8 December 2022, refers. **Section 106(1) of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002) refers**, "*The Minister may be notice in the Gazette, exempt any organ of state from the provisions of sections 16, 20, 22 and 27 in respect of any activity to remove any mineral for road construction, building of dams or other purpose which may be identified in such notice.*" **Section 106(3) of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002) refers**, "*Any landowner or lawful occupier of land who lawfully, takes sand, stone, rock, gravel or clay for farming or for effecting improvements in connection with such land or community development purposes, is exempted from the provisions of in subsection (1) as long as the sand, stone, rock, gravel or clay is not sold or disposed of.*" The above sections as quoted by yourself refers to the fact that landowners are exempted for applying for rights as provided for in terms of the Mineral and Petroleum Resources Development Act, when improving their land or any organ of state for the building of infrastructure projects. According to your correspondence your company/entity is neither an organ of State nor the landowner, **therefore you need to apply for**	Responded via Email on 09 December 2022 08:35 - Noted Pieter, I am extremely grateful for such a quick response!... if you do not object, I would like to include it in our Comment & Response sheet for the project. Just one quicky, … Section 106(3) also refers to lawful occupiers, but would this then be constrained to the property that is lawfully occupied? … e.g., if a borrow pit is located on the leased property, then it can only be used by SAE for the section of road intersecting that property? Thank you and keep strong. Shaun MacGregor

	the relevant rights as provided for in the Mineral and Petroleum Resources Development Act, Act 28 of 2002.	
09 December 2022 Email Pieter Swart Regional Manager: Mineral Regulation Department of Mineral Resources and Energy (DMRE)	Shaun, Lawful occupier will be someone who has a legal agreement with the landowner to use the land for a certain purpose. The material from the borrow pit can only be used for improvement of the land that is held by the registered land owner or leased by the lawful occupier. If the material is to be used for any other purpose on any other land for commercial purposes then a permit is required.	Responded via Email on Friday, 09 December 2022 09:12 – Okay great Pieter, thanks again. SAE will have a legal agreement with the landowner. As such, I'll inform them they may only use a borrow pit on the land they lease and for improving any section of road that intersects that same property. As far as the remaining sections of road are concerned, they will either need to apply for a mining permit or purchase the aggregate from a licensed commercial source. Thank you and keep strong, Shaun MacGregor
07 January 2023 Email Anoulize Strydom Remainder of LEUWE FOUNTAIN No. 27 (Farm Leeuwfontein)	Good day I do hope that this solar farm isn't going to "block" the rainfall water flow to Leeuwfontein.....	Responded via Email on 09 January 2023: Good Afternoon Anoulize, Thank you for your email below. Please note the notification of application email dated 25 November 2022 is in relation to an application for Environmental Authorization (EA) by way of a Basic Assessment Report (BAR) for the access road leading to the Main Transmission Sub-station (MTS) of the already authorised Phase 1 Solar facility as well as amendments to the existing EA that has been granted. With regards to the new access road, a Hydrological specialist has been appointed for the new road access which will inter alia determine how the development & widening of existing roads & crossings will impact on the surface water hydrology of the area. Further an Aquatic Specialist has also been appointed which will, amongst other, determine how the widening of existing road crossings will impact on the aquatic ecological integrity of the area.

		Specialists' studies including recommendations and proposed mitigation measures will form part of the draft BAR and associated Environmental Management Programme of the access road which will be circulated to you during the public comment period. To note, the drainage line that runs centrally through Goede Hoop No.26 and Leuwe Fountain (image below) has been buffered by 50m as per the Final EIA for the development of a 400 MW Solar Photovoltaic (PV) facility and associated infrastructure (Phase 3) on the Remainder of Farm Goede Hoop 26C, Portion 3 of Farm Goede Hoop 26C and other properties which has been submitted to the competent Authority for decision making. Yours sincerely, Shannon Farnsworth (Reg. EAP)
17 January 2023 Email Nicole Abrahams SANRAL Environmental Coordinator Western Region	Dear Ms Farnsworth I would herewith like to register SANRAL as I&AP. The South African National Roads Agency SOC Limited (SANRAL) has received background information this proposed project and based on its location and proximity to the nearest national road will have an impact on SANRAL. If services need to be constructed over or under the national road, (in this case the N10) or within 60m measured from the road reserve fence, the service owner must apply for a written permission from SANRAL, before any work may be carried out (wrstatutory@nra.co.za) Do not hesitate to contact the sender should you have any further queries. I trust that you will find the above in order.	Responded via Email on 19 January 2023: Good Afternoon Nicole, Thank you for your below email. Your details have been added to the I&AP database for the below project. Your comment regarding services in proximity to the N10 has been noted and will be included in the report, and associated EMPr. Yours sincerely, Shannon Farnsworth (Reg. EAP)
08 February 2023 Email	Good day Shannon, RE: Proposed Solar PV Facility	Responded via Email on 08 February 2023: Good Morning,

Yanga Nofuma Obstacle Administrator COO - Air Traffic Services	This is to acknowledge that ATNS has received your query. Below is the criteria for obstacle evaluation according to the regulations: •If the Solar PV installation is equal to or bigger than 5000 square meters; •If the Solar PV installation falls within a 8km radius around any aerodrome/airstrip or helipad; •If the Solar PV installation falls within the Approach and Departure area of any aerodrome/airstrip or helipad and •If the Solar PV installation falls within 3km radius of any aerodrome/airstrip or helipad a glint and glare assessment is required from the applicant. *Please Note the above is requirements for aviation purposes but if your development does fall outside of the above and you still need approval or letter based on other departments within the EIA process, you will still need to apply for assessments before we or the CAA can issue this approval or letter. Kindly note that ATNS charge for the assessment, and before the process start our Business Development department will forward a proposal to the client. The proposal and payment process are as follows if applicable: •You will receive the proposal from our Business Development department, it will contain the work that will be done as well as what it will cost. •They will provide you with all the information needed to make payment. For this reason, please provide a billing address and the details of the person to whom the proposal should be addressed.	Thank you for the explanatory email below. Am I correct in my understanding that it is only Solar PV installations that would require an assessment and not associated infrastructure, for example a road that leads to the Solar PV facility? Yours sincerely, Shannon Farnsworth (Reg. EAP)

	•We will start with the assessments when our Business Development department received an accepted and signed proposal back from the client. We will conduct an assessment to evaluate whether the proposed structures will affect the safety of flight for aerodromes in close vicinity as well as communication, navigation and surveillance (CNS) equipment. Please see required information below before we can proceed with our assessment: • Elevation above mean sea level • Coordinate list for each structure - WGS84 (degrees, min and sec – S302515.32 E0180102.52) • A KMZ file with the positions of the proposed structures. • We also require the dimensions/specs of the structures. • Height to the top of structure. • A Glint and Glare assessment report (if it is within the 3km radius of any aerodrome/airstrip or helipad). • If there will be power lines erected, and/or a substation the position and heights for each structure (Pole/substation) must be provided. This whole process can take up to 120 working days' minimum that will commence after the proposal is accepted, signed and received by our Business Development department. Please note that ATNS also liaise with the South Africa Civil Aviation Authority (SACAA) and will provide the client with the conditional/final approval from the SACAA.	

	The client will have to liaise with SACAA to finalise the "As build" and for any queries with the lighting.	
08 February 2023 Email Hennie Greeff Senior Manager Infrastructure Development, Housing and Planning Pixley ka Seme District Municipality	Good morning Sanral or the Department of Roads and Public Works Northern Cape are the road authorities of rural roads in the district and you are advised to liaise with them. The District Municipality is no longer responsible for road maintenance since 2011.	Responded via Email on 08 February 2023: Thank you, Hennie. Much appreciated. Yours sincerely, Shannon Farnsworth (Reg. EAP)
13 February 2023 Email Rabele Matsoso Northern Cape Department of Roads and Public Works	Good morning Shannon The roads in question is a Divisional Road 2448 (DR2448). According to Roads Ordinance No. 19 of 1976, the statutory road reserve width for divisional road is 20m.	
14 February 2023 Email Mmboneni Mutheiwana Department of Mineral Resources and Energy	Dear Shannon Kindly note that if you want to apply for section 53, you can lodge your application online on the Department's website. Check for SAMRAD applications and follow the steps to create your profile. You must select land use application which is section 53.	Application was lodged on 21 February 2023 (ref no. NC30/5/4/2/11505SU)
27 February 2023 Email Nomzamo Mdunyelwa	Good Day Shannon Please provide a formal application letter in your company letter head detailing the proposed work within our servitude. Further more for road applications underneath Eskom Tx lines, please ensure to provide the following information;	Responded via Email on 27 February 2023: Good Afternoon, Thank you for the below information. We have advised the applicant regarding the requirements below.

Servitude and Land Management Asset Management – Transmission Division Eskom	1.Need location of new road crossing, which line and towers affected. 2. Need final designs for road, showing the final elevation and road surface level. 3. Need construction methodology for road . 4. Need details on how surface will be made, graders, blasting etc. 5. Need timelines for road construction. 6. Need applicant to conduct survey to gather current conductor positions of line being crossed and current surface levels of servitude.	Yours sincerely, Shannon Farnsworth (Reg. EAP)
27 February 2023 Email	Good Day, We at ATNS are concerned about the safety of air traffic operations and it is our duty to assess the impact of all structures that have the ability to pose a threat to air traffic operations. As far as I know we do not conduct obstacle evaluations for flat surface roads.	Responded via Email on 27 February 2023: Good Afternoon, Thank you for the confirmation. Yours sincerely, Shannon Farnsworth (Reg. EAP)
17 March 2023 Email Thato Nape South African Radio Astronomy Observatory (SARAO)	Dear Shannon Kindly see the attached SARAO response letter for the access road leading to the 300MW solar facility. Regards, Thato (Refer to **Appendix E6**)	Responded via Email on 17 March 2023: Good afternoon Thato, Received. Thank you. Yours sincerely, Shannon Farnsworth (Reg. EAP)
19 April 2023 Email	Good day Shaun, Additions regarding regulation 7 have been added.	Responded via Email on 05 May 2023. Refer to **Appendix E6** for a copy of the EAP response letter dated 05 May 2023.

Hannes Roux Directorate: Sustainable Resource Management Northern Cape Department of Agriculture, Environmental Affairs, Rural Development and Land Reform	Attached is application form for servitude. (Refer to **Appendix E6** for a copy of the letter dated 13.04.2023) **Comments related to:** 1. In terms of the land use change, it will be required to apply for rezoning of a portion the farmland to accommodate proposed solar development including associated infrastructure. The rezoning application can lead to consolidation of portions of farmland to comply with requirements. 2. A servitude application must be submitted for approval for the proposed access road. 3. Conservation of Agriculture Resources Act 43 of 1983 (CARA) Regulations 1-16 The landowner will be responsible for sustainable farming practices in order to protect the natural resource. The sustainability of the farming practices will depend on the number of animals allowed on the land and the implementation of a grazing management systems. During the development of the infrastructure, the natural vegetation cover of the land will be disturbed. This can potentially promote soil erosion caused by wind and water-runoff from rainwater. All necessary precaution must be applied to protect the land against erosion. Erosion protection measures must be implemented on all new and existing roads, construction activities and excavations during the development phase.	**Summary of response:** • The access road (19 m-wide Right of way servitude) is already included in a SALA application for subdivision and consolidation dated 19th December 2022. The Directorate: Land Use and Soil Management acknowledged receipt of the application (AgriLand reference number: 2023_01_0044) on 23rd January 2023. • An Erosion Control Plan and a Weeds and Invasive Alien Plant Species Control Plan have been created and will be included as appendices in the EMPr. The said plans are included in this letter for your review and approval, if required. • Permanent proposed structures within 10 m horizontally outside the flood area of a watercourse and proposed roads crossing this zone have been addressed in the erosion control plan.

	The landowner/developer will be responsible for any erosion caused by construction activities and excavations. The clearing of the natural veld can also promote the infestation of weeds and invasive alien plant species. The landowner/developer will be responsible to control all weeds and invasive plant species infestation caused by disturbing the natural vegetation. <u>Regulations 2 and 3</u> These regulations are only relevant to irrigation and dry land development on agricultural land and do not comply with the proposed solar development. **No permits are required.** Clearing of natural vegetation on gradient greater than 12% for proposed solar infrastructure will create erosion from rainwater runoff. Any proposed infrastructure development and proposed roads on these gradients must be addressed in the erosion control plan. <u>Regulation 7 and 8</u> Cultivation in the regulation means ploughing land for crop growing and changing natural veld to dry land or irrigation development. All activities and structures related to the proposed solar development (roads, powerlines, structures and substations) may not block or divert run-off rainwater from the natural water course during normal and flood conditions. No land may be cultivated within 10 meters horizontally outside the flood area of a water course. The natural	

	vegetation alongside a water course must be protected. All activities and structures related to the proposed solar development must ensure protection of this 10m buffer zone alongside a natural water course. Permanent proposed structures in this zone and proposed roads crossing this zone must be addressed in the erosion control plan. Requirements: • Erosion control plan • Weeds and invasive alien plant species control plan	
19 April 2023 Email Melinda Jansen SAC: Water Quality Management Lower Orange Water Management Area Department of Water and Sanitation (DWS)	Good morning Mr. McDonald Please find attached letter of comments from DWS. (Refer to **Appendix E6** for a copy of the letter dated 19.04.2023) **Comments related to:** 1. Registration of section 21 (a) water uses. 2. Storm water must be effectively managed, and a storm water management plan submitted to the local municipality for approval. 3. Written agreement for waste collection and disposal sent to DWS. 4. Registration of Section 21 (c) and (i).	Responded via Email on 03 May 2023. Refer to **Appendix E6** for a copy of the EAP response letter dated 03 May 2023.
05 May 2023 Email	Good day,	Justin Bowers responded via Email on 09 May 2023. Good evening Natasha,

Natasha Higgitt SAHRA	The status of case "SAE Sun Central Cluster 1 Access Road" was updated. Please login to SAHRIS to view updates. (Refer to **Appendix E6** for a copy of the letter dated 05 May 2023) **Interim Comment dated 05 May 2023 summary:** SAHRA requests that a field-assessment of the proposed activities be undertaken as part of the EA Application process. The HIA must confirm the location and extent of the sites identified in 2022 by the representatives of Ecoleges and ground truth any areas associated with the proposed amendment activities. The applicant is advised to follow the process in terms of section 19(1)b of NEMA in order to extend the EA process to address these comments.	I know you have been contacted by my colleague Shaun MacGregor on this matter already, but as I have been involved in the project since 2017, I would like to bring additional information to the table for consideration. A baseline Heritage Impact Assessment was undertaken in 2017 for all properties affected by the solar PV project (originally known as Phase 1, now called "Sun Central Cluster 1"), which originally considered three alternative development footprints, including associated linear activities (access roads & grid integration infrastructure). This meant that the search area undertaken by the Heritage Practitioner was much broader than the proposed development footprints, and even included some adjacent properties. In 2021, a Part 2 amendment was undertaken to re-define the boundaries of the approved footprint (to remain outside of ecologically sensitive areas) and make provision for additional infrastructure including containerised battery storage, dual-fuel backup generators and on-site fuel storage as a prerequisite for the DMRE RMIPPPP tender. Again, an HIA was undertaken, focussing on the re-aligned boundaries of the authorised footprint, and re-scanning the authorised footprint and broader area. Additionally, as per previous SAHRA comments, a Cultural Heritage Management Plan (CHMP) has been compiled and is in final review, before being submitted to SAHRA for approval, which identifies, classifies and informs the management of every heritage site within the Sun Central Cluster 1 solar PV footprint and associated linear infrastructure. Linked to the CHMP is the "Chance Find Procedure" included in the Environmental Management Programme (EMPr) which outlines the procedures to be followed in the event of a previously unknown artefact being unearthed or discovered during construction or operation of the plant. In the event of a "Chance Find" the CHMP would accordingly need to be updated to capture the details and ensure the correct management of the additional artefact/s.

		The information and processes followed to date, clearly indicate that significant groundwork has already been undertaken on the site to locate and protect the heritage resources of the site, as well as provision being made for the discovery and safe guarding of unknown artefacts following commencement of the project. The protection of heritage resources has been assessed and mitigated in the Impact Assessments and EMPr for both known and chance finds. Accordingly, we believe the recommendation made by SAHRA in their recent comments (see text box below) is overly onerous on the project, which is on the brink of commencement, and at a critical stage of receiving or being denied international funding, to ensure its realisation; which any further delays may significantly jeopardise. Furthermore, all projects of this scale have multiple authorisation processes that run concurrently, and which are mutually exclusive of one another, meaning that the issuance or denial of one authorisation does not influence the issuance or denial of another authorisation. Hence, the desire for SAHRA to want additional investigations to be undertaken on the Access Road alignment and LILO transmission line (the balance of the scope of the Part 2 amendment application falls within the already authorised footprint), can run concurrently and in parallel with the Environmental Authorisation (EA) process, and not hinder its progress (all comments, including SAHRAs, are captured in the Comments & Response Sheet) as any additional heritage requirements from SAHRA, emanating from the findings of the additional groundwork, can be captured and implemented through the CHMP. *"SAHRA requests that a field-assessment of the proposed activities be undertaken as part of the EA Application process. The HIA must confirm the location and extent of the sites identified in 2022 by the representatives of Ecoleges and ground truth any areas associated with the proposed amendment activities.*

		The applicant is advised to follow the process in terms of section 19(1)b of NEMA in order to extend the EA process to address these comments." We would appreciate SAHRA to re-consider their position on the two applications at hand, and if needed re-issue comments to that effect.
		Shaun MacGregor responded via Email on 16 May 2023. Refer to **Appendix E6** for a copy of the EAP response letter dated 05 May 2023.
15 May 2023 Email Natasha Higgitt SAHRA	Good day, The status of case "SAE Sun Central Cluster 1 Access Road" was updated. Please login to SAHRIS to view updates. (Refer to **Appendix E6** for a copy of the letter dated 15 May 2023) **<u>Final Comment dated 15 May 2023 summary:</u>** The following comments are made as a requirement in terms of section 3(4) of the NEMA Regulations and section 38(8) of the NHRA in the format provided in section 38(4) of the NHRA and must be included in the Final BAR and EMPr: • 38(4)a – The SAHRA has no objections to the proposed development; • 38(4)b – The recommendations of the specialists are supported and must be adhered to. Further additional specific conditions are provided for the development: • Un-developed and un-disturbed sections of the proposed access road must be subjected to a walkdown by a qualified	Responded via Email on 16 May 2023. Refer to **Appendix E6** for a copy of the EAP response letter dated 16 May 2023.

	archaeologist to ensure that no heritage resources of high heritage will be impacted. A walkdown report must be submitted to SAHRA for comment. No construction in these sections may occur without comment from SAHRA; • SAHRA reserves the right to impose additional conditions on the development based on the results of the walkdown report; • 38(4)c(i) – If any evidence of archaeological sites or remains (e.g. remnants of stone-made structures, indigenous ceramics, bones, stone artefacts, ostrich eggshell fragments, charcoal and ash concentrations), fossils or other categories of heritage resources are found during the proposed development, SAHRA (Natasha Higgitt 021 202 8660/ nhiggitt@sahra.org.za) must be alerted as per section 35(3) of the NHRA. Non-compliance with section of the NHRA is an offense in terms of section 51(1)e of the NHRA and item 5 of the Schedule; • 38(4)c(ii) – If unmarked human burials are uncovered, the SAHRA Burial Grounds and Graves (BGG) Unit (Thingahangwi Tshivhase/Ngqabutho Madida 012 320 8490), must be alerted immediately as per section 36(6) of the NHRA. Non-compliance with section of the NHRA is an offense in terms of section 51(1)e of the NHRA and item 5 of the Schedule; • 38(4)d – See section 51 of the NHRA regarding offences; • 38(4)e – The following conditions apply with regards to the appointment of specialists: • With reference to the mitigation work noted above, a qualified archaeologist must be appointed to undertake the work in terms of the permit applied for as noted above;	

	• If heritage resources are uncovered during the course of the development, a professional archaeologist or palaeontologist, depending on the nature of the finds, must be contracted as soon as possible to inspect the heritage resource. If the newly discovered heritage resources prove to be of archaeological or palaeontological significance, a Phase 2 rescue operation may be required subject to permits issued by SAHRA; • The Final BAR and EMPr must be submitted to SAHRA for record purposes; • The decision regarding the EA Application must be communicated to SAHRA and uploaded to the SAHRIS Case application.	

Appendix E4: Proof that the Authorities and Organs of State received written notification

Name	Cell	Phone	Fax	Email	BID on 25/11/2022
EMTHANJENI LOCAL MUNICIPALITY					
Offices		053 632 9100	053 631 0105		
Municipal Manager					
Mr Isak Visser		053 632 9101	053 631 0105	visser@emthanjeni.co.za	RRR on 25/11/22
Ms Marushel Meyers (PA)		053 632 9101		mmeyers@emthanjeni.co.za	Automatic Reply (AR) on 09/01/23
Mr M Joka - Director Technical Services		053 632 9101		mjoka@emthanjeni.co.za	Called on 06/01/23 - No answer.
Ms Lelethu Thiso	078 292 8466			thiso@emthanjeni.co.za	Called on 06/01/23 - No answer.
Town Planner					
Ms Lucy Billy	078 389 4989	053 632 9100		lbilly@emthanjeni.co.za	Called on 06/01/23 - Phone off.
IDP Officer					
Conrad Jafta				cjafta@emthanjeni.co.za	RRR on 25/11/22
Municipal Councillor of the Ward					
Lena Eliza Andrews (Ward 6)	078 787 0420			elizabethm@emthanjeni.co.za	Address failed.
Mr Patrick Mhlawuli (Ward 8)	083 8829 450			pmhlauli7@gmail.com	AR on 04/12/22
Concillor S Makhandula (Ward 3)	063 233 8588			smakhandula@emthanjeni.co.za	RRR on 03/01/23
Rate Payers Association					
Jaco Blom		072 780 1288		blomdeaar@gmail.com	Called on 06/01/23 - No answer.
Hentie vd Merwe				vdm@deaarsa.co.za	
PIXLEY KA SEME DISTRICT MUNICIPALITY					
		053 631 0891	053 631 2529		
Municipal Manager					
Mr Rodney Pieterse		053 631 0891	053 631 2529	mm@pksdm.gov.za	Called on 06/01/23 - No answer.
Nomapaseka Present (PA)		053 631 0891		mm@pksdm.gov.za	Called on 06/01/23 - No answer.
Environmental Director					
Mr Sonwabile Nkondeshe		053 631 0891		snkondeshe@pksdm.gov.za	RRR on 29/11/22
Town Planner					
Mr Simon Baas		053 631 0891		sbaas@pksdm.gov.za	RRR on 23/12/22
				baasks1@gmail.com	No need to follow up.
GOVERNMENT					
Department of Environmental Affairs					
Mr Lunga Dlova				ldlova@dffe.gov.za	No need to follow up - a new CO will be appointed.
Ms Masina Morudu				memorudu@dffe.gov.za	RRR on 25/11/22

Department of Environment Fisheries and Forestry - Biodiversity					
Mr Stanley Tshitwamulomoni		012 399 9587		stshitwamulomoni@environment.gov.za	RRR on 28/11/22
Ms. Mmatlala Rabothata				MRabothata@environment.gov.za	No need to follow up - a new CO will be appointed.
Ms. Tsholofelo Sekonko				tsekonko@environment.gov.za	No need to follow up - a new CO will be appointed.
Air Quality					
Mr Derrick Makhubele				DMakhubele@environment.gov.za	RRR on 25/11/22
Edward Mahosi				EMAHOSI@dffe.gov.za	No number.
Department of Water & Sanitation					
Mr A. Abrahams	082 883 6741	053 830 8802	053 831 4534	AbrahamsA@dwa.gov.za	No need to follow-up, colleague received it.
Mr Shaun Cloete		0543385800		CloeteS@dws.gov.za	RRR on 25/11/22
Ms Chantel Schwartz		054 338 5800		schwartzc@dws.gov.za	No need to follow-up, colleague received it.
Ngidi Ziyanda				NgidiZ@dws.gov.za	RRR on 25/11/22
Hlengani Alexia				HlenganiA@dws.gov.za	RRR on 27/11/22
Mokhoantle Lerato				MokhoantleL@dws.gov.za	RRR on 01/12/22
Feni Ntombizanele				FeniN2@dws.gov.za	No need to follow-up, colleague received it.
Moalosi Kelebogile				MoalosiK2@dws.gov.za	RRR on 25/11/22
Rasikhanya Tendamudzimu				RasikhanyaT@dws.gov.za	No need to follow-up, colleague received it.
Franks Lindiwe				FranksL@dws.gov.za	No need to follow-up, colleague received it.
Department of Environment & Nature Conservation					
		053 807 7430/7300	053 831 3530		
Thulani Mthombeni	072 409 2277			tmthombeni013@gmail.com	No need to follow-up, CA for the project.
Isaac Gwija	060 989 8441	053 631 0601/16		IGwija@ncpg.gov.za	No need to follow-up, CA for the project.
	0641471991			mr.gwija@gmail.com	No need to follow-up, CA for the project.
Doreen Werth	060 991 4675			dwerth@ncpg.gov.za	No need to follow-up, CA for the project.
Dineo Moleko		053 807 7467		dmoleko@ncpg.gov.za	No need to follow-up, CA for the project.
Department of Roads & Public Works					
		053 839 2100	053 839 2100		
Mr K Nogwili (HOD) & Ms N. Corns (Secretary)		053 839 2109	053 839 2117	ncorns@ncpg.gov.za	No need to follow-up, colleague received it.
Mr J Roelofse (Director)		053 839 2249		roelofse.j@vodamail.co.za	RRR on 03/01/23
Ms M Kgomongwe		053 836 5618		mkgomongwe@ncpg.gov.za	No need to follow-up, colleague received it.
Provincial Department of Transport, Safety & Liason					
Ms T. Modiakgotla (Private Secretary)		053 839 1702	053 839 1773	tmodiakgotla@ncpg.gov.za	Called on 06/01/23 - No answer.
Department of Agriculture, Fisheries & Forestry– Northern Cape					

Samkelisiwe Lubanga	083765 4691	(053) 807 2638	(053) 832 1206	Slubanga@dffe.gov.za	Called on 06/01/23 - No answer.
Jacoline Mans	0828082737 or 060 973 1660	054 338 5909	054 334 0030	Jmans@dffe.gov.za	Called on 06/01/23 - No answer.
Department of Agriculture, Fisheries & Forestry– Northern Cape (National)					
Ms Mashudu Marubini (Delegate of the Minister)		012 319 7619		MashuduMa@daff.gov.za	Called on 06/01/23 - No answer.
Ms Thoko Buthelezi (AgriLand Liason office)		012 319 7634		ThokoB@daff.gov.za	Called on 06/01/23 - No answer.
Ms Hettie Buys (Act 70/70 Registry)				HettieB@daff.gov.za	Called on 06/01/23 - No answer.
Department of Agriculture, Land Reform & Rural Development (Provincial)					
Mr Hannes Roux	071 860 7550	(053) 631 0074		hrouxx@gmail.com	Called on 06/01/23 - Phone off.
				hroux@ncpg.gov.za	Called on 06/01/23 - Phone off.
Department of Rural Development & Land Reform					
Ms Mangalane Du Toit(Chief Director: Land Restitution Support)		(053) 807 5700		Mangalane.DuToit@dalrrd.gov.za	RRR on 07/12/22
Mr Andrew Lawrence (Director - Land Claims)				andrew.lawrence@dalrrd.gov.za	RRR on 25/11/22
Ms Darlit Ysterhuizen				darlit.ysterhuizen@dalrrd.gov.za	Address cannot be found.
Department of Energy					
Johannes Mokobane		0124067804/7481 (direct)		johannes.mokobane@energy.gov.za	Address failed.
Department of Mineral Resources					
Ms Lungi Mondela (Secretary)		(053) 807 1700	(053) 830 0827	lungi.mondela@dmr.gov.za	No need to follow up, Env Off received it.
Mr Pieter Swart (Regional Manager)				pieter.swart@dmr.gov.za	DWR on 25/11/22
Mr Vincent Muila (Env Officer)		053 807 1716		vincent.muila@dmr.gov.za	RRR on 08/12/22
ORGANISATIONS					
EWT					
Cobus Theron		021 788 5661		cobust@ewt.org.za	Requested info on 25/11/22
Johan Du Plessis				johand@ewt.org.za	Cc'd on info reply on 28/11/22
WESSA					
Sandy Crake		(021) 701 1397		info@wessa.co.za	Called on 06/01/23 - Phone engaged.
SAHRA					
Natasha Higgit (Heritage Officer, Archaeology, Palaeontology and Meteorites Unit)	***LOAD ONTO SAHRIS WEBSITE***				
South African Civil Aviation Authority (SACAA)					

Themba Thabete		021 934 4744		thabethet@caa.co.za	OOR on 06/01/23
SENTECH					
		011 471 4400		info@sentech.co.za	No need to follow-up, colleague received it.
Leticia Vollner		021 525 3609		VollmerL@sentech.co.za	RRR on 01/12/22
Sonwabo Helesi				HelesiS@sentech.co.za	No need to follow-up, colleague received it.
Simon Munyai				MunyaiS@sentech.co.za	No need to follow-up, colleague received it.
Square Kilometre Array (SKA)					
Dr. Adrian Tiplady		011 442-2434		atiplady@ska.ac.za	No need to follow up, area of project very far from their area (comment from previous De Aar projects).
Bird Life SA					
Jhb Office		011 789 1122	011 789 5188	info@birdlife.org.za	No need to follow-up, colleague received it.
Ernest Retief	082 325 6608			ernst.retief@birdlife.org.za	OOR on 25/11/22
Sam Ralston	083 673 3948			energy@birdlife.org.za	RRR on 30/11/22
SALT (South African Large Telescope)					
Dr Ramotholo Sefako	084 770 5100	021 640 9344		rrs@saao.ac.za	No need to follow up, mentioned that De Aar is not within the 100km radius that they work in.
Northern Cape Provincial Heritage Agency - Ngwao-Boswa Jwa Kapa Bokone					
Andrew ratha Timothy	079 036 9695			rtimothy@nbkb.org.za	Number and email not working.
Northern Cape Chamber of Commerce and Industry					
Sharon Steyn		053 831 1081		sharon@nocci.co.za	RRR on 29/11/22
South African Photovoltaic Industry Association (SAPVIA)					
Lineo Masopha	082 704 6674	011 553 7264		lineo@sapvia.co.za	OOR on 07/12/22
South African National Energy Development Institute (SANEDI)					
Funanani Netshitomboni		011 038 4435		funananin@sanedi.org.za	Deleted without reading.
Independent Power Producer Office					
Desiree Otto				desiree.otto@ipp-projects.co.za	Called on 06/01/23 - Lady that answered said they are not allowed to let calls through.
		087 351 3000		query@ipp-renewables.co.za	Called on 06/01/23 - Lady that answered said they are not allowed to let calls through.
Centre for Environmental Rights					
Phumla Yeki		021 447 1647		pyeki@cer.org.za	Deleted without reading.
				info@cer.org.za	Deleted without reading.
SERVITUDE HOLDERS					
Transnet					

Joey Bowers		053 632 8303/8		joey.bowers@transnet.net	No need to follow-up, colleague received it.
Dylan McLeod				Dylan.McLeod@transnet.net	RRR on 25/11/22
Eskom Distribution					
Menyatso Mokhuoane	078 078 9641	053 632 6714		MokhuoaneM@eskom.co.za	Address failed
Eskom Transmission					
Henk Wydeman (Hydra, Lines)				WydemaH@eskom.co.za	DWR on 25/11/22
Daan Liebenberg (Hydra, Plant)				LiebenDa@eskom.co.za	
Keketso Mbete (Env Person)				MbeteKC@eskom.co.za	RRR on 25/11/22
Eskom Megawatt Park - Transmission					
Mr John Geeringh (D1Y38)		011 516 7233	086 661 4064	john.geeringh@eskom.co.za	RRR on 29/11/22
SANRAL					
Nicole Abrahams		021 957 4602		abrahamsn@nra.co.za	RRR on 25/11/22

Appendix E5: List of Interested and Affected Parties

Name	Cell	Phone	Fax	Email
EMTHANJENI LOCAL MUNICIPALITY				
Offices		053 632 9100	053 631 0105	
Municipal Manager				
Themsile W Msengana		061 472 5577	053 631 0105	tmsengana@emthanjeni.co.za
Ms Marushel Meyers (PA)		053 632 9101		mmeyers@emthanjeni.co.za
Mr M Joka - Director Technical Services		053 632 9101		mjoka@emthanjeni.co.za
Ms Lelethu Thiso	078 292 8466			thiso@emthanjeni.co.za
Town Planner				
Ms Lucy Billy	078 389 4989	053 632 9100		lbilly@emthanjeni.co.za
IDP Officer				
Conrad Jafta				cjafta@emthanjeni.co.za
Municipal Councillor of the Ward				
Lena Eliza Andrews (Ward 6)	078 787 0420			elizabethm@emthanjeni.co.za
Mr Patrick Mhlawuli (Ward 8)	083 8829 450			pmhlauli7@gmail.com
Concillor S Makhandula (Ward 3)	063 233 8588			smakhandula@emthanjeni.co.za
Rate Payers Association				
Jaco Blom		072 780 1288		blomdeaar@gmail.com
Hentie vd Merwe				vdm@deaarsa.co.za
PIXLEY KA SEME DISTRICT MUNICIPALITY				
		053 631 0891	053 631 2529	
Municipal Manager				
Mr Isak Visser		053 631 0891	053 631 2529	mm@pksdm.gov.za
Nomapaseka Present (PA)		053 631 0891		mm@pksdm.gov.za
Environmental Director				
Mr Sonwabile Nkondeshe		053 631 0891		snkondeshe@pksdm.gov.za
Town Planner				
Mr Simon Baas		053 631 0891		sbaas@pksdm.gov.za
				baasks1@gmail.com
Infrastructure Services: Senior Manager				
Hennie Greeff				idh@pksdm.gov.za
GOVERNMENT				

Department of Environmental Affairs				
Mr Lunga Dlova				ldlova@dffe.gov.za
Ms Masina Morudu				memorudu@dffe.gov.za
Department of Environment Fisheries and Forestry - Biodiversity				
Mr Stanley Tshitwamulomoni		012 399 9587		stshitwamulomoni@environment.gov.za
Ms. Mmatlala Rabothata				MRabothata@environment.gov.za
Ms. Tsholofelo Sekonko				tsekonko@environment.gov.za
Air Quality				
Mr Derrick Makhubele				DMakhubele@environment.gov.za
Edward Mahosi				EMAHOSI@dffe.gov.za
Department of Water & Sanitation				
Mr A. Abrahams	082 883 6741	053 830 8802	053 831 4534	AbrahamsA@dwa.gov.za
Mr Shaun Cloete		0543385800		CloeteS@dws.gov.za
Ms Chantel Schwartz		054 338 5800		schwartzc@dws.gov.za
Ngidi Ziyanda				NgidiZ@dws.gov.za
Hlengani Alexia				HlenganiA@dws.gov.za
Mokhoantle Lerato				MokhoantleL@dws.gov.za
Feni Ntombizanele				FeniN2@dws.gov.za
Moalosi Kelebogile				MoalosiK2@dws.gov.za
Rasikhanya Tendamudzimu				RasikhanyaT@dws.gov.za
Franks Lindiwe				FranksL@dws.gov.za
Department of Environment & Nature Conservation				
		053 807 7430/7300	053 831 3530	
Thulani Mthombeni	072 409 2277			tmthombeni013@gmail.com
Isaac Gwija	060 989 8441	053 631 0601/16		IGwija@ncpg.gov.za
	0641471991			mr.gwija@gmail.com
Doreen Werth	060 991 4675			dwerth@ncpg.gov.za
Dineo Moleko		053 807 7467		dmoleko@ncpg.gov.za
Department of Roads & Public Works				
Mr Rabele Matsoso		053 839 2100	053 839 2100	r.matsoso@vodamail.co.za
Mr K Nogwili (HOD) & Ms N. Corns (Secretary)		053 839 2109	053 839 2117	ncorns@ncpg.gov.za
Mr J Roelofse (Director)		053 839 2249		roelofse.j@vodamail.co.za
Ms M Kgomongwe		053 836 5618		mkgomongwe@ncpg.gov.za
Provincial Department of Transport, Safety & Liason				

Ms T. Modiakgotla (Private Secretary)		053 839 1702	053 839 1773	tmodiakgotla@ncpg.gov.za
Department of Agriculture, Fisheries & Forestry– Northern Cape				
Samkelisiwe Lubanga	083765 4691	(053) 807 2638	(053) 832 1206	Slubanga@dffe.gov.za
Jacoline Mans	0828082737 or 060 973 1660	054 338 5909	054 334 0030	Jmans@dffe.gov.za
Department of Agriculture, Fisheries & Forestry– Northern Cape (National)				
Ms Mashudu Marubini (Delegate of the Minister)		012 319 7619		MashuduMa@daff.gov.za
Ms Thoko Buthelezi (AgriLand Liason office)		012 319 7634		ThokoB@daff.gov.za
Ms Hettie Buys (Act 70/70 Registry)				HettieB@daff.gov.za
Department of Agriculture, Land Reform & Rural Development (Provincial)				
Mr Hannes Roux	071 860 7550	(053) 631 0074		hrouxx@gmail.com
				hroux@ncpg.gov.za
Department of Rural Development & Land Reform				
Ms Mangalane Du Toit(Chief Director: Land Restitution Support)		(053) 807 5700		Mangalane.DuToit@dalrrd.gov.za
Mr Andrew Lawrence (Director - Land Claims)				andrew.lawrence@dalrrd.gov.za
Ms Darlit Ysterhuizen				darlit.ysterhuizen@dalrrd.gov.za
Department of Energy				
Johannes Mokobane		0124067804/7481 (direct)		johannes.mokobane@energy.gov.za
Department of Mineral Resources				
Ms Lungi Mondela (Secretary)		(053) 807 1700	(053) 830 0827	lungi.mondela@dmr.gov.za
Mr Pieter Swart (Regional Manager)				pieter.swart@dmr.gov.za
Mr Vincent Muila (Env Officer)		053 807 1716		vincent.muila@dmr.gov.za
Department of Human Settlements Northern Cape				
Ms. I. Lekalake		538 309 534		ilekalake@ncpg.gov.za
Mr. Z. Monakali (Regional Manager: Pixely ka Seme Region)		536 310 953		zmonakali@ncpg.gov.za
ORGANISATIONS				
EWT				
Cobus Theron		021 788 5661		cobust@ewt.org.za
Insauf de Vries				insaufd@ewt.org.za
Johan Du Plessis				johand@ewt.org.za

WESSA				
Sandy Crake		(021) 701 1397		info@wessa.co.za
SAHRA				
Natasha Higgit (Heritage Officer, Archaeology, Palaeontology and Meteorites Unit)	***LOADED ONTO SAHRIS WEBSITE (CASE ID: 20237)***			
South African Civil Aviation Authority (SACAA)				
Themba Thabete		021 934 4744		thabethet@caa.co.za
SENTECH				
		011 471 4400		info@sentech.co.za
Leticia Vollner		021 525 3609		VollmerL@sentech.co.za
Sonwabo Helesi				HelesiS@sentech.co.za
Simon Munyai				MunyaiS@sentech.co.za
Square Kilometre Array (SKA)				
Dr. Adrian Tiplady		011 442-2434		atiplady@ska.ac.za
Bird Life SA				
Jhb Office		011 789 1122	011 789 5188	info@birdlife.org.za
Ernest Retief	082 325 6608			ernst.retief@birdlife.org.za
Sam Ralston	083 673 3948			energy@birdlife.org.za
SALT (South African Large Telescope)				
Dr Ramotholo Sefako	084 770 5100	021 640 9344		rrs@saao.ac.za
Northern Cape Provincial Heritage Agency - Ngwao-Boswa Jwa Kapa Bokone				
Andrew ratha Timothy	079 036 9695			rtimothy@nbkb.org.za
Northern Cape Chamber of Commerce and Industry				
Sharon Steyn		053 831 1081		sharon@nocci.co.za
South African Photovoltaic Industry Association (SAPVIA)				
Lineo Masopha	082 704 6674	011 553 7264		lineo@sapvia.co.za

South African National Energy Development Institute (SANEDI)				
Funanani Netshitomboni		011 038 4435		funananin@sanedi.org.za
Independent Power Producer Office				
Desiree Otto				desiree.otto@ipp-projects.co.za
		087 351 3000		query@ipp-renewables.co.za
Centre for Environmental Rights				
Phumla Yeki		021 447 1647		pyeki@cer.org.za
				info@cer.org.za
SERVITUDE HOLDERS				
Transnet				
Joey Bowers		053 632 8303/8		joey.bowers@transnet.net
Dylan McLeod				Dylan.McLeod@transnet.net
Obakeng Pilane (Section Manager)		0536328283		Obakeng.Pilane@transnet.net
Eskom Distribution				
Menyatso Mokhuoane	078 078 9641	053 632 6714		MokhuoaneM@eskom.co.za
Eskom Transmission				
Henk Wydeman (Hydra, Lines)				WydemaH@eskom.co.za
Daan Liebenberg (Hydra, Plant)				LiebenDa@eskom.co.za
Keketso Mbete (Env Person)				MbeteKC@eskom.co.za
Eskom Megawatt Park - Transmission				
Mr John Geeringh (D1Y38)		011 516 7233	086 661 4064	john.geeringh@eskom.co.za
SANRAL				
Nicole Abrahams		021 957 4602		abrahamsn@nra.co.za
APPLICANT / CLIENT (SAE)				
Karen Potgieter				karen@solarafrica.com
Nicoline Bredenkamp				Nicoline.Bredenkamp@solarafrica.com
Tim Gaskell				tim.gaskell@solarafrica.com
Frank Sprung				frank.sprung@solarafrica.com
Willem Retief (Land Owner)	0829447167			wretief@webmail.co.za
PUBLIC and/or NEIGHBOURING FARMS				
Remainder of FARM No. 149 (Farm Goodhope)				
Neville Vimpany	082 868 1991	041 366 1037		cathy.vimpany@yahoo.com

Ricky Vimpany				richard.vimpany@bravospace.co.za
Remainder of LEUWE FOUNTAIN No. 27 (Farm Leeuwfontein)				
Corneulis Oosthuizen	061 271 0268			louisa.oosthuizen25@gmail.com
	074 114 3950			cmo.karoo@gmail.com
				anoulizes@gmail.com
Portion 1,2 & 4 LEUWE FOUNTAIN No. 27 (Farm Weltevrede)				
Pieter du Toit	083 278 2590			psdutoit4@gmail.com
Remainder of TAAIBOSCH FONTEIN No. 41 (Farm: Constancia)				
Andries Pienaar	082 762 2206			andriespienaar@hotmail.com
Portion 2 & 5 TAAIBOSCH FONTEIN No. 41 (Farm: Skilpadskuil)				
Manual Orfao	082 784 1972			mcorfao@worldonline.co.za
				swopshop@worldonline.co.za
Portion 3 TAAIBOSCH FONTEIN No. 41				
Dawie du Plessis	083 544 4139			l.duplessis@live.com
Remainder & Portion 7 &9 of KAFFERSPOORT No. 56 (Dieprivier)				
Andries Pienaar	082 762 2206			andriespienaar@hotmail.com
Remainder of BARENDS KUILEN No. 38 and Remainder & Portion 1 of BLAAUWBOSCH KUILEN OUTSPAN No. 37 (Farm: Blaawboschkuil)				
Christiaan Venter	082 378 3601			christiaanv@adsactive.com
Requested to be registered				
Malherbe Du Toit	060 383 8058	0212763620		Du-Toit.Malherbe@abo-wind.com
Petrus Scheepers	072 482 6529	0212763620		petrus.scheepers@abo-wind.com
David Nunez Blundell				david.nunez@siriuspower.co.za

Appendix E6: Copies of any correspondence and minutes of any meetings

Pre-application meeting minutes with Northern Cape DAEARD&LR (Competent Authority) on 19 January 2023.

ecoleges
Environmental Consultants

No. 3 Generaal Street, Machadodorp, 1170
PO Box 516, Machadodorp, 1170
Tel: 086 644 7179
Fax: 086 697 9316
info@ecoleges.co.za
www.ecoleges.co.za

SOLAR AFRICA

agriculture, environmental affairs, rural development and land reform
Department:
agriculture, environmental affairs,
rural development and land reform .
NORTHERN CAPE PROVINCE
REPUBLIC OF SOUTH AFRICA

PRE-CONSULTATION MEETING WITH THE NORTHERN CAPE DEPARTMENT OF AGRICULTURE, ENVIRONMENTAL AFFAIRS, RURAL DEVELOPMENT AND LAND REFORM (DAEARD&LR) REGARDING THE UPGRADING & DEVELOPMENT OF AN ACCESS ROAD FROM THE N10/'BURGERVILLE' DISTRICT ROAD (2448) TURN-OFF INTO THE FARM RIET FOUNTAIN NO. 39C AND TO THE SWITCHING STATION AND MAIN TRANSMISSION SUBSTATION ON SUN CENTRAL CLUSTER 1 (300 MW) SOLAR PV FACILITY BETWEEN DE AAR & HANOVER, EMTHANJENI LOCAL MUNICIPALITY, PIXLEY KA SEME DISTRICT MUNICIPALITY, NORTHERN CAPE PROVINCE, SOUTH AFRICA

MEETING MINUTES – PRE-CONSULTATION MEETING

Location: Microsoft Teams

Date: 19 January 2023

Time: 10:00

Attendance:

Thulani Mthombeni (DAEARD&LR) - tmthombeni013@gmail.com

Miss MG Yamoso (DAEARD&LR) - yamosob@gmail.com

Karen Potgieter (Solar Africa Energy) - karen@solarafrica.com

Justin Bowers (Ecoleges Environmental Consultants) - justin@ecoleges.co.za

Shaun Macgregor (Ecoleges Environmental Consultants) - shaun@ecoleges.co.za

Shannon Farnsworth (Ecoleges Environmental Consultants) - shannon@ecoleges.co.za

Hlengile Mtsweni (Ecoleges Environmental Consultants) – hlengile@ecoleges.co.za

ITEM NO.	AGENDA ITEMS	RESOLUTIONS	RESPONSIBLE PERSON
1.	OPENING AND WELCOME Shannon declared the meeting open and welcomed all attendees.		
2.	PRESENTATION Shannon gave a presentation on the project description, locality, EIA listed activities and specialist studies. Followed by a question and answer dialog.		

3.	QUESTIONS FOR CLARITY NEMA EIA LISTED ACTIVITIES a) Does the middle portion of the private road section with the 4 sections that go off the existing track constitute development or expansion? b) The N10/Burgerville intersection constitutes widening? c) The four new sections on the existing farm track road constitute development? d) The new section of road to the MTS does not constitute lengthening?	a) Thulani advised that we should apply for the development activity (LN 3 Activity 4). b) Thulani advised that it does form part of the access road and therefore should be included as widening. c) Yes as above. d) Thulani agreed it is the development of a new road regarding width and not lengthening as it's a new road.	
4.	BAR TEMPLATE Shannon inquired if there is a template we should use.	Thulani confirmed there is a template which must be used.	**Shannon to email Thulani requesting the BAR template**
5.	HARD COPIES OF DOCUMENTS Shannon enquired the number of hard copies and/or electronic copies of documents required by DAEARD&LR	Thulani confirmed that DAEARD&LR would preferably need 2 hard copies and 1 soft copy (CD/memory stick) of the draft BAR and the final BAR.	
6.	APPLICATION FORM Shannon enquired if the application form can be submitted together with the draft BAR.	Thulani confirmed that the regulations allow for the application and draft report to be submitted at the	

		same time. It is up to the EAP as to whether they submit together or separately.	
7.	GENERAL Thulani mentioned that the Department is no longer referred to as Department of Environment and Nature Conservation (DENC) but rather the Department of Agriculture, Environmental Affairs, Rural Development and Land Reform (DARD&LR). The Application with the correct departmental name and logo to be requested.		**Shannon to email Thulani requesting the new Application Form reflecting the correct department name and logo.**
7.	CLOSURE The Meeting adjourned at 11:16.		

Appendix F: Impact Assessments

Appendix F1: Impact Assessment Alternatives

Appendix F2: Impact Assessment Preferred Alternative

Appendix G: Environmental Management Programme (EMPr)

Appendix H: Details of EAP and expertise

Environmental Assessment Practitioner (EAP) details:

Environmental Assessment Practitioner	Ecoleges Environmental Consultants
Contact Person	Shannon Farnsworth
Postal Address	PO Box 516 Machadodorp 1170
Telephone	072 654 8202
E-mail	shannon@ecoleges.co.za

Abbreviate Curriculum Vitae

Name	Shannon Farnsworth
Date of birth	02 February 1990
Nationality	South African
Current Address	Raptors View Wildlife Estate, Hoedspruit, Limpopo, South Africa Cell: 072 654 8202 E-mail: shannon@ecoleges.co.za
Languages	English, basic Afrikaans
Driver's Licence	Code B
Specialisations	Key Fields: environmental/ecological management plans, environmental auditing, Environmental Impact & Basic Assessment, protected area management
Qualifications & Courses Attended	*2009 – 2011* Bachelor of science: Environmental Management & Geography, University of Kwa-Zulu Natal, Pietermaritzburg. *2012 – 2019* • Firearm training in the handle and use of handgun, shotgun, manual and self-loading operated rifle and carbine. • Environmental Management Inspector [EMI] basic training course for government officials conducted by the national Department of Environmental Affairs [DEA]. designated by the hon. MEC in KwaZulu-Natal for Economic Development, Tourism and Environmental Affairs, Mr. Sihle Zikalala, as a grade 2 environmental management inspector • Wetland wet-heath and Wet-ecoservices training provided by WESSA and UKZN • Certificate of successful completion of: basic Geographic Information Systems [GIS] arc 10 training course • Mini-SASS [stream assessment scoring system] by Duzi Umgeni Conservation Trust [DUCT] and the then Department of Agriculture and Environmental Affairs [DAEA] • Certificate of attendance issued by Maccaferri Africa for hydraulics: introduction to river protection and for hydraulics: introduction to coastal protection • Ecological infrastructure training workshop by WESSA

Memberships & Registrations	*2013 – Present:* Registered member of the South African Council for Natural Scientific Professions [SACNASP] as a Certified Natural Scientist in terms of section 20[3] of the *Natural Scientific Professionals Act, 2003 [Act 27 of 2003]* in the field of Environmental Science. Registration Number: 200215/13 *2020 – Present:* Registered as a professional Environmental Assessment Practitioner [EAP] with the Environmental Assessment Practitioners Association of South Africa [EAPASA]. Registration Number: 2020/176
Career Summary	*September 2021 – Current:* Environmental Assessment Practitioner – Ecoleges Environmental Consultants *December 2020 – Current:* Member of the Mopani District Municipal Planning Tribunal – Environmental Portfolio *February 2020 – November 2020:* Operational Management - African Dawn Safaris *April 2019 – December 2019:* Manager: Environmental Management Unit at Msunduzi Municipality *January 2012 – March 2019:* Environmental Scientist: Environmental Management Unit at Msunduzi Municipality *2008–2009:* Invasive Alien Plant planning, control, and eradication with Servest Landscapes.

EAP Affirmation

Appendix 1 Section 3 (r) of the Environmental Impact Assessment (EIA) Regulations, 2014 (promulgated in terms of the National Environmental Management Act 107 of 1998, as amended - NEMA), require an undertaking under oath or affirmation by the Environmental Assessment Practitioner (EAP) in relation to the correctness of the information provided in the report, the inclusion of comments and inputs from stakeholders and interested and affected parties, and any information provided by the EAP to interested and affected parties as well as any responses by the EAP to comments or inputs made by interested or affected parties.

I, **Shannon Farnsworth**, on behalf of Ecoleges, hereby affirm that all information provided herein is to the best of my knowledge correct, all comments and inputs received from stakeholders and interested and affected parties have been accurately recorded herein (Appendix E) and any information or responses provided by the EAP to comments or inputs made by interested or affected parties are recorded in the Comments and Response Report (Appendix E).

Signature of the EAP

11th May 2023

Date

Appendix I: Specialist's declaration of interest

Appendix I1: Air Quality

Appendix I2: Noise

Appendix I3: Aquatic

Appendix I4: Heritage

Appendix I5: Palaeontology

Appendix I6: Social -Economic

Appendix I7: Terrestrial Biodiversity

Appendix I8: Hydrology and Geohydrology

Appendix I9: Agriculture

Appendix I10: Geotechnical

Appendix I11: Traffic

Appendix I12: Visual

Appendix I13: Avifauna

Appendix J: Additional Information

Appendix J1: Environmental Attributes for the Alternative and Preferred Alternative
Appendix J2: Site Sensitivity Verification Report