

ACCESS ROAD DESCRIPTION AND CONSTRUCTION METHOD

For a new access road on the remainder and portion 4 of the farm Onder Rugzeer 168, 17 km northeast of Kenhardt, Kenhardt Magisterial District, Northern Cape

1. Introduction and Background

As background, the Kenhardt solar photovoltaic (PV) facilities are to be constructed on the remainder and portion 4 of the farm Onder Rugzeer 168, Kenhardt Magisterial District, Northern Cape (the Onder Rugzeer Property).

In order to access the proposed PV facilities on the Onder Rugzeer Property, an access road of approximately of up to 12 metres maximum width is proposed. The road construction will at all times be in accordance with the environmental management programme (EMPr) as accepted by the Northern Cape Department of Environment and Nature Conservation (DENC) for the project site.

The new proposed access road is shown in turquoise below, with the existing access road options shown in red and yellow:

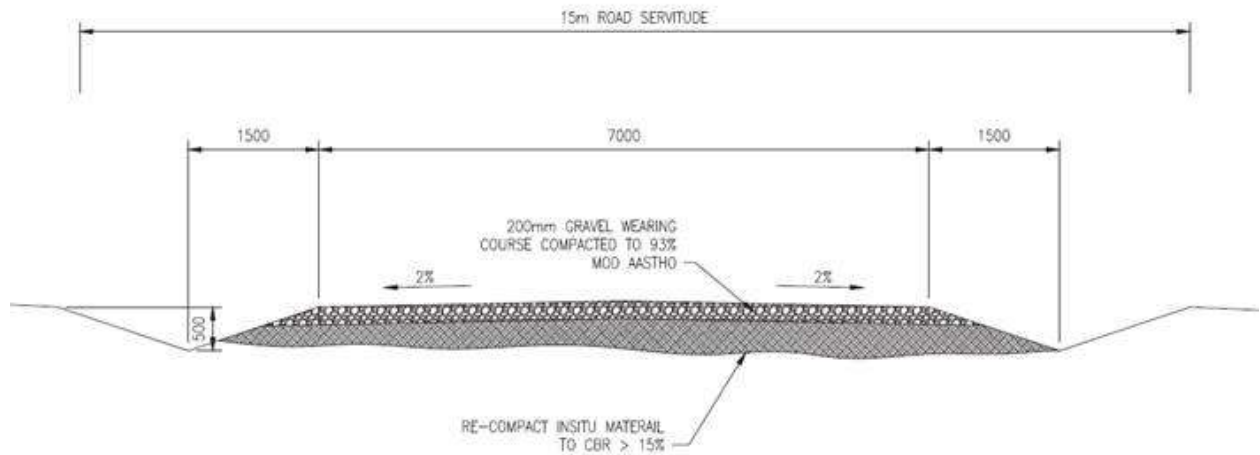


2. Road description

The proposed road would have a maximum width of 12 metres (inclusive of side drains and gravel embankments) and no more than approximately 13 kilometres long. The road would have a gravel surface, however, it will only be known at detailed design phase should any portions of the road require concrete surfacing. In the event that any concrete surfacing is

required, this will be completed in line with the environmental management programme as approved by the DENC.

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



- The road will consist of the following:
 1. a gravel wearing course (driving surface);
 2. a shoulder area that slopes directly away from the edge of the driving surface; and
 3. a stormwater furrow. The extent of the stormwater management system, if any, is at the discretion of the design engineer and depends on the erosive quality of the soil. It should be noted that the existing road (Option B) does not include a stormwater furrow and no erosion is currently evident along the length of the existing road.
- The space for the shoulder area and the furrow/ditch (if required) will be kept as limited as possible, and will be within the maximum proposed disturbance width of 12 i.e. total disturbance width (physical surface, road verge and side drain) will be no more than 12 metres.

3. Construction methodology

- The construction of the Kenhardt Access Road will begin with the surveying and pegging of the centre line and the road extents before construction. Construction will take place within the extent of this demarcation.
- A site camp for the access road construction will be established within one of the authorised laydown areas/ site camps at one of the PV facilities.
- The contractor will then initiate clearing and grubbing procedure. Clearing and grubbing entails the removal of excess vegetation before commencement of site work. The Environmental Control Officer (ECO) will demarcate the full extent of the work area in conjunction with the contractor and all areas outside this demarcated zone will be considered no go areas for construction. Topsoils stripped during the

clearing and grubbing will be stockpiled for use in rehabilitation of the disturbed road verges, with excess topsoil to be used during rehabilitation of the PV Facility.

- Bulk earthworks follow with the removal of existing material so that road layer works can be imported and processed.
- Upper selected layers shall be selected and processed after the subgrade layer has been processed and compacted according to engineer specifications.
- Each layer shall be imported after the completion of the previous layer.

4. Materials supply

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

5. Drainage and stormwater management

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

6. Erosion control and management

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

7. Dust control and management

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

8. Storage of material

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

9. Procedures for containment of leaks and spills emergency plans

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