Botanical Impact Statement

Proposed PV solar plant & battery storage facility on Remainder of Erf 2018, Riversdale

5 February 2024

Author details

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Area of Specialisation	Botanical surveys

Mark Berry is an independent botanical specialist with over 25 years of experience mainly in the Western Cape, but also in the adjacent provinces, Free State and KwaZulu-Natal. Mark is also experienced in undertaking/compiling Environmental Impact Assessments (EIA's), Environmental Management Programmes, environmental audits, land use surveys, etc. CV is available upon request.

Citation of report

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Declaration of Independence

I Mark Gerald Berry, as the appointed Specialist hereby declare/affirm the correctness of the information provided or to be provided as part of the application, and that I:

- in terms of the general requirement to be independent:
  - **other than fair remuneration for work performed in terms of this application, have no business, financial, personal or other interest in the development proposal or application and that there are no circumstances that may compromise my objectivity**; or
  - am not independent, but another specialist (the "Review Specialist") that meets the general requirements set out in Regulation 13 has been appointed to review my work (Note: a declaration by the review specialist must be submitted);
- in terms of the remainder of the general requirements for a specialist, have throughout this EIA process met all of the requirements;
- have disclosed to the applicant, the EAP, the Review EAP (if applicable), the Department and I&APs all material information that has or may have the potential to influence the decision of the Department or the objectivity of any report, plan or document prepared or to be prepared as part of the application; and
- am aware that a false declaration is an offence in terms of Regulation 48 of the EIA Regulations, 2014 (as amended).

Signature of the Specialist:	
Name of Company:	MB Botanical Surveys
Date:	5 February 2024

Table of Contents

1. Introduction

Proposed development and area assessed

The applicant (Hessequa Municipality) is investigating the feasibility of a new photovoltaic (PV) solar plant and battery energy storage facility on Remainder of Erf 2018 outside Riversdale (**Figure 1-1**). The preferred site measures about 20.5 ha in size and is located in the southern part of the erf (**Figure 1-1**). Several more locations have also been identified as potential sites for the solar plant if the preferred site is found to be unsuitable for whatever reason. All the sites are located on fallow land or areas currently used for agricultural purposes, such as wheat fields or grazing.

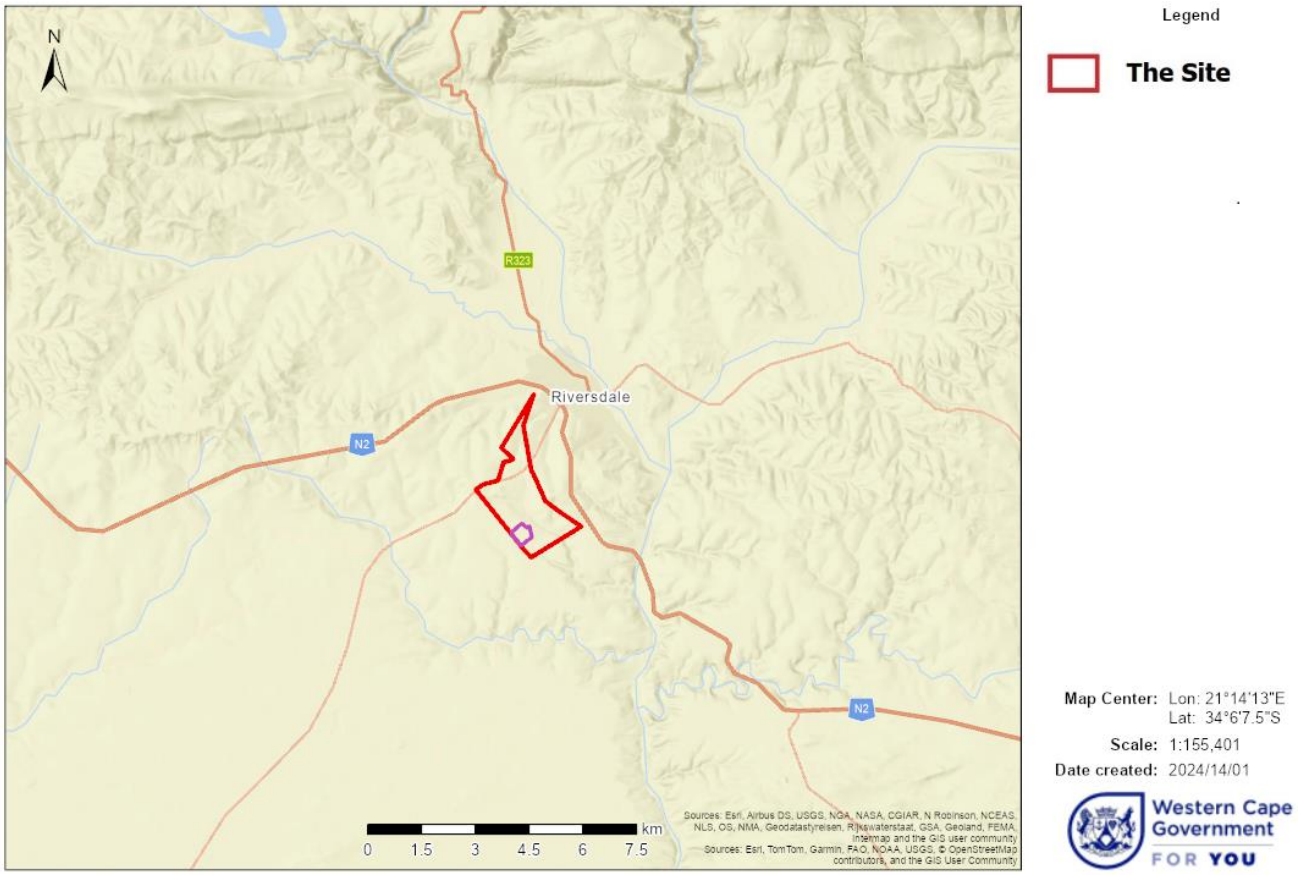

Figure 1-1: Location of study area south of Riversdale. The small purple polygon indicates the preferred location for the solar plant.

According to the Screening Report, generated by the EAP (Sharples Environmental Services) on 12 December 2023, the preferred site has been mapped as Medium sensitive in the plant species theme. With regards to the terrestrial biodiversity theme, it has been mapped as Very High sensitive. The Very High sensitivity is ascribed to the possible presence of, among other, two threatened ecosystems. As a result, MB Botanical Surveys was contracted to undertake a botanical survey of the site.

Figure 1-2: Potential sites. The yellow polygon shows the property. The red polygon shows the preferred site location. The alternative sites are indicated by the red X's.

Terms of Reference

The terms of reference agreed upon for this botanical study include:

- Adhere to the EAP's terms of reference for the study;
- Identify and describe biodiversity patterns at a community and ecosystem level (main vegetation type, plant communities and threatened ecosystems), at species level (Species of Conservation Concern and protected species) and in terms of significant landscape features;
- Describe the sensitivity of the site and its immediate surroundings;
- Map or describe the presence of invasive alien plants;
- Review the relevant biodiversity plans compiled in terms of the National Environmental Management Biodiversity Act (Act 10 of 2004);
- Make recommendations with regards to the protection/management of biodiversity; and
- Adhere to the NEMA and CapeNature protocols for biodiversity assessments.

Limitations and Assumptions

The following limitations and assumptions apply to the study:

- Fieldwork was carried out in the summer season, considered to be a reasonable time

for many flowering species in the Southern Cape due to a protracted rainfall period. However, plants that only flower at other times of the year (e.g. winter to spring), such as certain bulbs (Iridaceae and Orchidaceae), may have been missed. The overall confidence in the completeness and accuracy of the botanical findings is however considered to be fair to good.

Notwithstanding the above limitation, the specialist is of the opinion that the survey and findings are adequate to aid decision making.

Use of this report

This report reflects the professional judgment of its author(s). The information and recommendations presented in this report are specific to the project and site at hand and do not extend to future developments or neighbouring sites. Use of this report is therefore restricted.

2. Site Sensitivity Verification

The Department of Environmental Affairs online Environmental Screening Tool indicates that the plant species theme is of Medium sensitivity for the site. **Annexure 1** lists the threatened species and their sensitivity from the Screening Report. The Screening Report further indicates that the terrestrial biodiversity theme is of Very High sensitivity for the site. This rating is ascribed to the possible presence of threatened ecosystems (i.e. Rûens Silcrete Renosterveld and Eastern Rûens Shale Renosterveld) and a strategic water source area (surface water) or SWSA (SW).

In circumstances where the *status quo* assessment proves the contrary to the above (i.e. where the site is deemed to be of Low sensitivity in respect of both themes, the GN320 of 2020 requires that a Terrestrial Biodiversity Compliance Statement is submitted as set out by the National Environmental Management Act (NEMA) (Act No. 107 of 1998) Regulations of 2020 (as amended). If the above is confirmed, then a biodiversity assessment will be required for development proposals.

3. Methodology

The methodology used in this terrestrial biodiversity assessment, including a desktop background assessment and one site visit, is outlined in the subsections below.

Desktop assessment

A brief review of online (e.g. Google Earth, iNaturalist.org, posa.sanbi.org and CapeFarmMapper) and desktop resources (available literature and reports) was undertaken to determine the nature of the site, the expected vegetation type(s), the

presence of natural vegetation remnants and species of conservation concern (SCC), hydrological features, and the significance of the site in terms of biodiversity planning.

Site survey

A botanical survey of the site was undertaken on 17 and 18 January 2024 by the author. A qualitative assessment of the type and condition of affected vegetation on site, disturbances and presence of alien species, SCC and protected tree species was carried out. The path walked during the survey is shown on **Figure 3-1**. Plant species not identified in the field, were collected and/or photographed and identified at the office and Compton (Kirstenbosch) Herbarium. A few of the identifications were confirmed on iNaturalist. The 2018 South African Vegetation Map and the latest floristic taxonomic literature and reference books were used for the purpose of this specialist study. Any plants classified as rare or threatened in the Red List of South African Plants online database[1] are highlighted. The assessment follows the relevant national guidelines/protocols for biodiversity assessments as listed in the Government Gazette No. 43110 on 20 March 2020.

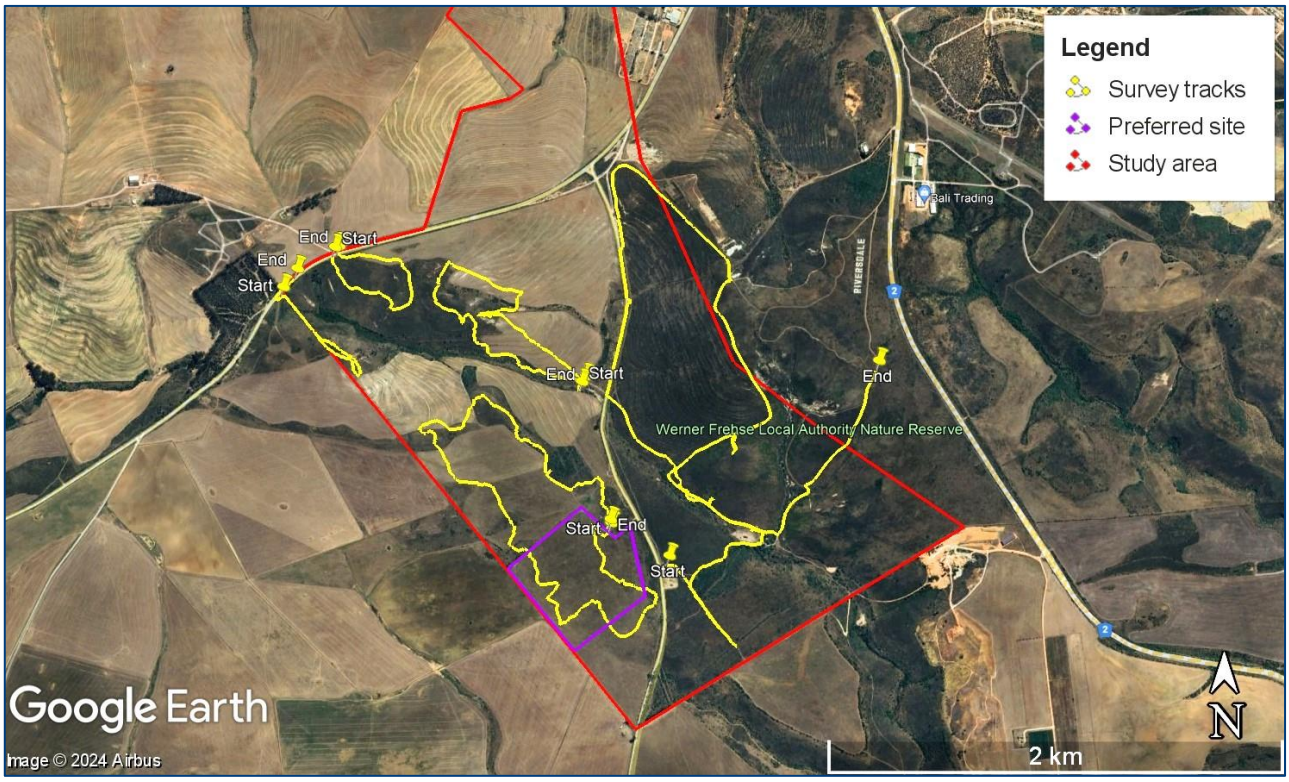

Figure 3-1: Satellite photo showing the survey tracks on the site.

The following information was recorded during the site visit:

1. The condition of the vegetation. Is the vegetation either disturbed or degraded? A

[1] Threatened Species Programme | SANBI Red List of South African Plants

disturbed or degraded area could range from agricultural fields (fallow land), or areas previously disturbed by mining activities, to an area that has been severely eroded or degraded as a result of bad land management or alien infestation.

2. Species diversity (alpha diversity). This refers to the numbers of different indigenous plant species occurring on site.
3. Species of Conservation Concern (SCC), endemics, as well as protected tree species occurring on site. This would include near threatened, rare, vulnerable, endangered or critically endangered species. SCC and protected tree species were mapped using Easy GPS v2.5 software on an iPhone. Accuracy is given as ±4 m.
4. Identification of the vegetation type(s) and communities (if discernible) on the site. This would include trying to establish the distribution of a vegetation type and whether or not it is vulnerable, endangered or critically endangered.
5. Connectivity with (or isolation from) nearby natural vegetation.

Data analysis

Site ecological importance (SEI) of the affected (receptor) area has been determined by applying the criteria described in the Species Environmental Assessment Guideline (SANBI, 2020). See **Annexure 1** for a description of the SEI methodology.

4. Literature Study

A desktop literature review was undertaken during the biodiversity assessment using both online resources and existing maps and reports. A summary of the most relevant information to this assessment is presented below. Some of the information was ground truthed during the site surveys.

Location, topography & land use

The property is located in an undulating (hilly) area (135-225 masl), south of Riversdale (**Figure 4-1**). As noted earlier, the sites proposed for the project comprise fallow land or areas currently used for agriculture, such as wheat fields or grazing. The rest of the property is covered by vegetation or fallow land, usually associated with drainage lines and steeper slopes, informal housing, an Eskom substation, several roads/farm tracks and watercourses. The surrounding area comprises much of the same. The south-eastern part of site encroaches the Werner Frehse Nature Reserve, a local authority nature reserve located west of the N2.

Hydrology

According to Cape Farm Mapper, several non-perennial watercourses traverse the property (**Figure 4-1**). All of these seem to be located outside the sites proposed for the

project. The Klein-Brakrivier and associated NFEPA (National Freshwater Ecosystem Priority Area) wetland (flat, seep and channelled valley-bottom wetland) is a tributary of the Goukou River (**Figure 4-2**). Another smaller watercourse and associated channelled valley-bottom wetland traverses the northern part of the site towards the Vetrivier, a major tributary of the Goukou. The Goukou and Vetrivier are located 2-3 km away to the east.

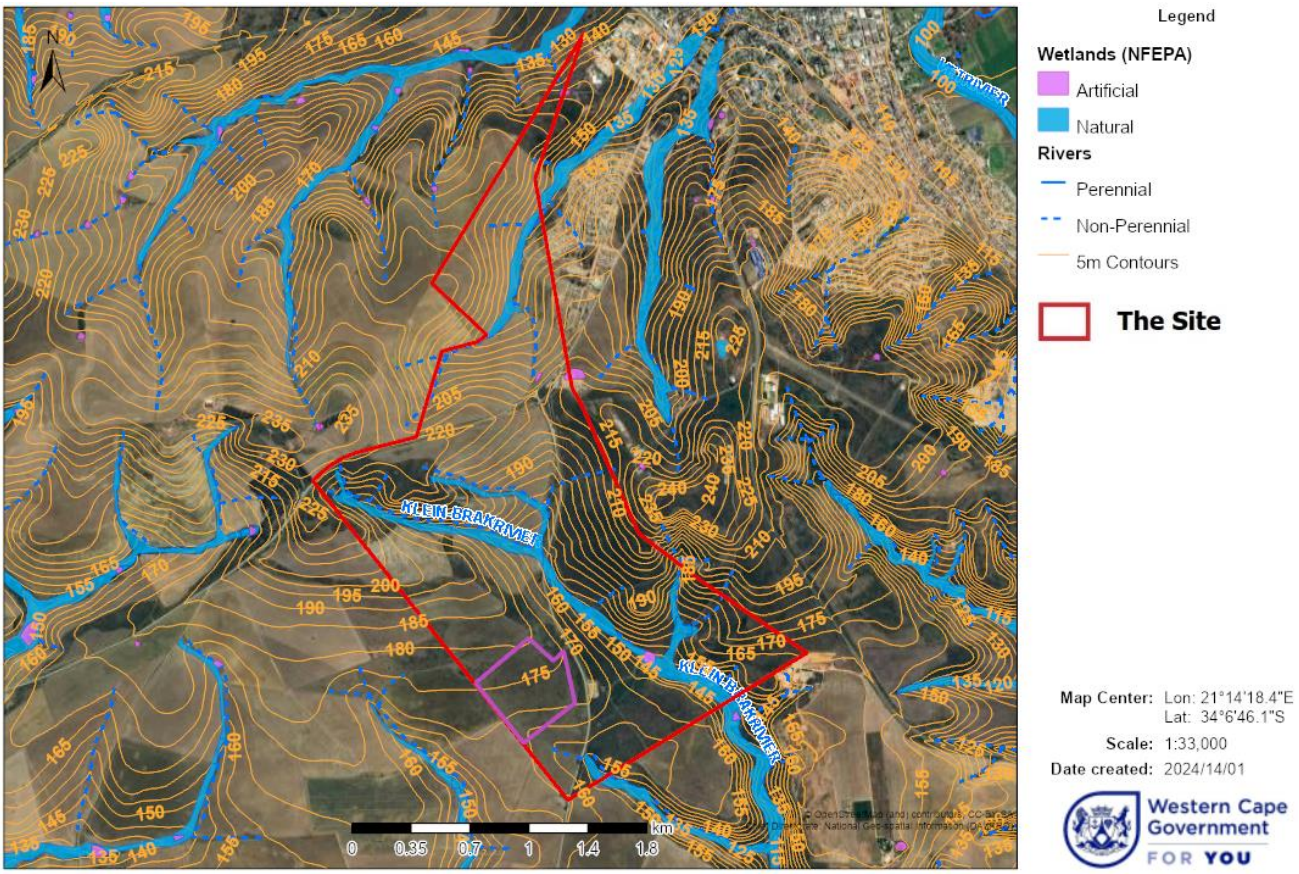

Figure 4-1: Combined topography and hydrology map. The purple polygon shows the position of the preferred site.

Climate

The mean annual rainfall for the property ranges between 456 and 528 mm (as per Cape Farm Mapper climatic data for 1950 to 2000). The peak rainfall periods are the months of March (autumn) and October (spring), while the driest period is the summer months (Dec-Jan), i.e. weak bimodal rainfall regime. The study area lies in the transition zone between the winter and summer rainfall regions. Mean monthly maximum and minimum temperatures are 29.7°C and 6.0°C for January and July, respectively (as per Cape Farm Mapper data). The Köppen-Geiger climate classification for the Riversdale area is BSk (arid, steppe, cold).

Figure 4-2: Upstream section of the Klein-Brakrivier between two of the alternative sites (pastures).

Geology

According to the 3420 Riversdale 1:250 000 geological map, the study area is underlain by Witteberg Group (siltstone and arenaceous shale), Bokkeveld Group (shale and siltstone) and Grahamstown Formation sediments, as well as terrace gravel. The Grahamstown Formation (Tertiary age) comprises high-level silcrete and ferricrete (**Figure 4-3**). It overlays the Bokkeveld Group in a few places and typically support silcrete renosterveld. The Witteberg Group is confined to the northern part of the study area, while the Bokkeveld Group and terrace gravel are found in the southern part (**Figure 4-4**). The shale and siltstone associated with the Witteberg and Bokkeveld Groups typically support shale renosterveld.

Figure 4-3: Weathered silcrete (Grahamstown Formation) in the southern part of study area.

Figure 4-4: Exposed shale (clay) in the centre of study area.

Biodiversity Planning Context

According to the 2018 Vegetation Map of South Africa, the study area is located inside Rûens Silcrete Renosterveld and Eastern Rûens Shale Renosterveld (**Figure 4-5**). The preferred location for the solar plant is located inside Rûens Silcrete Renosterveld. Rûens Silcrete Renosterveld occurs on the Rûens coastal forelands from Riviersonderend to Riversdale, with a few outliers westwards to Bot River (Mucina, 2006). It is a highly fragmented unit associated with Eastern Rûens Shale Renosterveld and occurring on a well-dissected, old African surface (Mucina, 2006). These habitats support open, low, cupressoid and small-leaved, low to moderately tall shrubland characterised by succulents and often dominated by renosterbos (*Elytropappus rhinocerotis*) (Mucina, 2006). Eastern Rûens Shale Renosterveld occurs from Bredasdorp and the area of the Breede River near Swellendam to the Goukou River at Riversdale (Mucina, 2006). The vegetation is described as a cupressoid and small-leaved, low to moderately tall grassy shrubland, dominated by renosterbos (Mucina, 2006).

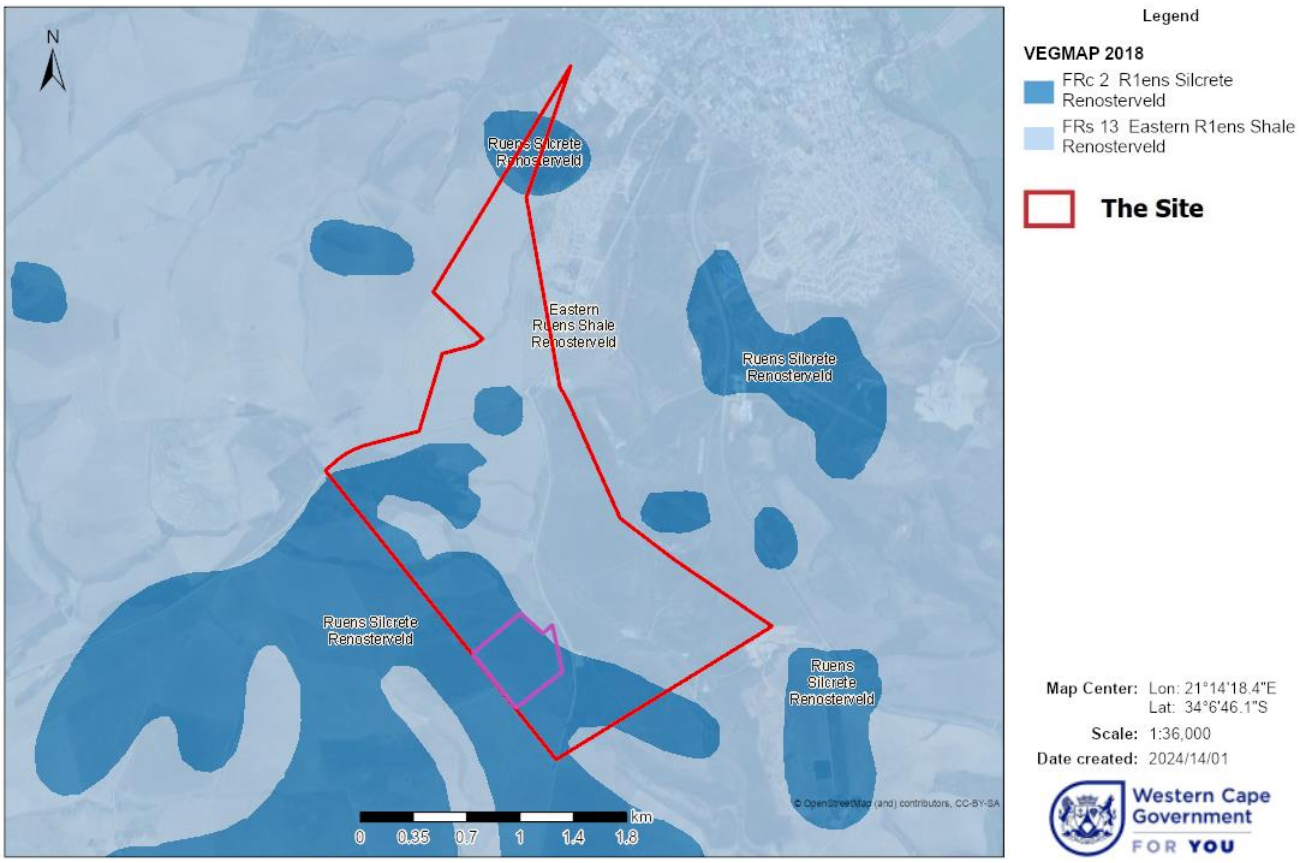

Figure 4-5: Extract of the 2018 SA Vegetation map.

Due to their transformed state and rate of transformation, both Rûens Silcrete Renosterveld and Eastern Rûens Shale Renosterveld are currently listed as Endangered in the Revised National List of Threatened Ecosystems (DEA, 2022), with only 14% and 15% left,

respectively[2]. They have been transformed mainly for intensive agricultural land and cropland (Mucina, 2006). The units are further degraded by ongoing biotic disruption from invasive species and overgrazing, as well as erosion[3][4]. Both are poorly protected, with only small fractions (<1%) formally protected in the Bontebok National Park, De Hoop and Werner Frehse Nature Reserves (Mucina, 2006). Being part of the Fynbos Biome, renosterveld is maintained by regular fires. Unfortunately, landscape fragmentation is disrupting this 'maintenance' requirement, often leading to localised species loss and bush encroachment or alien infestation (pers. obs.). The high rates of habitat loss place both units at risk of collapse.

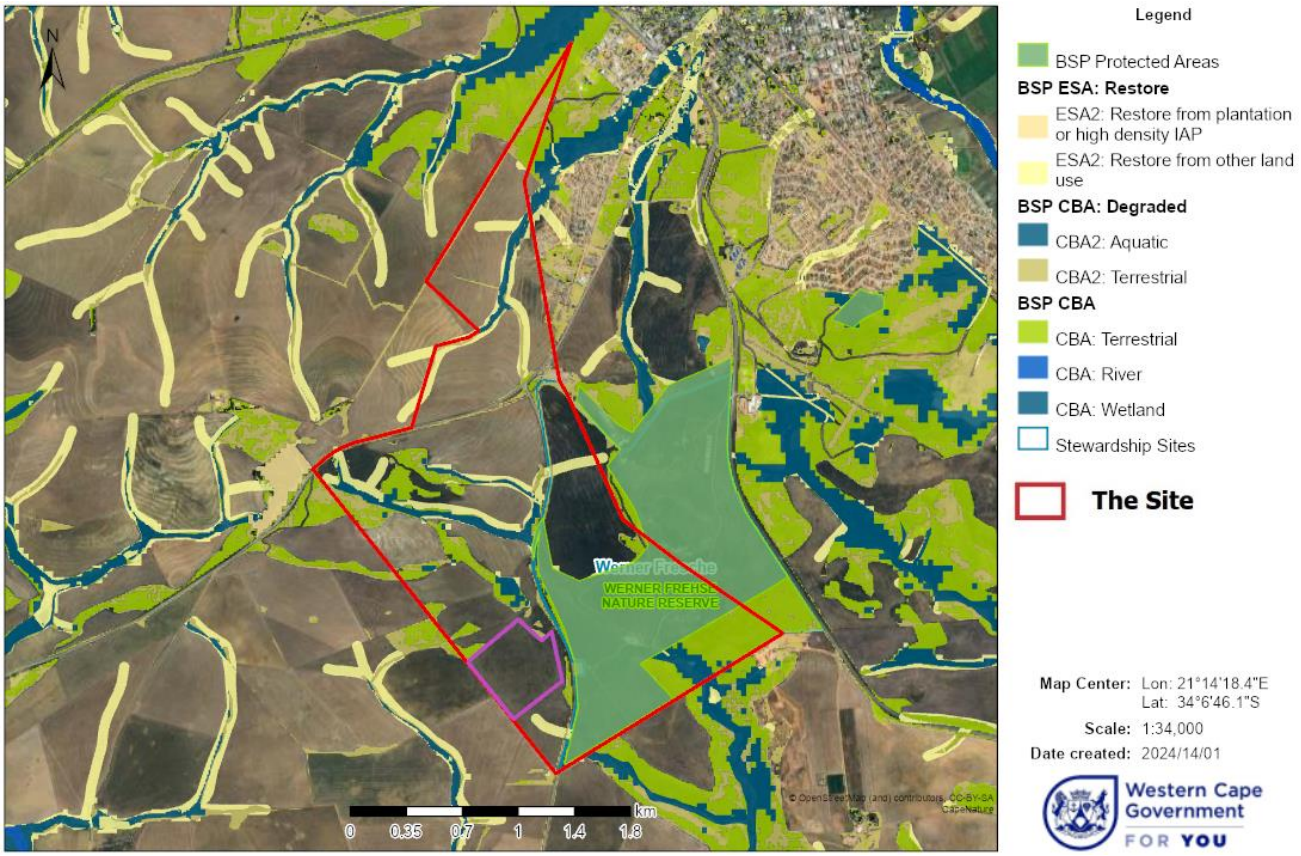

Figure 4-6: Extract of the Western Cape biodiversity network map.

The study area falls partly inside the southern Cape biodiversity network (**Figure 4-6**). Parts of the site have been mapped as terrestrial and aquatic critical biodiversity areas (CBA), degraded critical biodiversity areas (CBA2) and degraded ecological support areas (ESA2). These are mostly associated with the watercourses that run through the site and a few remnants of natural vegetation. The preferred location for the solar plant does

[2] Ecosystems - Biodiversity BGIS (sanbi.org)
[3] Ecosystem Detail - Biodiversity BGIS (sanbi.org)
[4] Ecosystem Detail - Biodiversity BGIS (sanbi.org)

not encroach onto the biodiversity network. The south-eastern part of the study area falls inside the Werner Frehse Nature Reserve. Reasons for the importance of the mapped CBA and ESA units include the presence of threatened vegetation types (Rûens Silcrete Renosterveld and Eastern Rûens Shale Renosterveld), threatened vertebrate habitat (bontebok and Cape Mountain Zebra), water resource protection (Southern Coastal Belt) and several wetland types (channelled valley bottom, depression, seep and flat wetlands).

CBA's are defined as areas in a natural condition that are required to meet biodiversity targets, for species, ecosystems or ecological processes and infrastructure (Pool-Stanvliet, 2017). These sites are selected for meeting national targets for species, habitats and ecological processes (Pool-Stanvliet, 2017). Many of these areas support known occurrences of threatened plant species, and/or may be essential elements of designated ecological corridors. Loss of designated CBA's is therefore not recommended. ESA's, on the other hand, are supporting zones required to prevent the degradation of CBA's and Protected Areas.

5. Results

In order to fulfil in the requirements of the terrestrial biodiversity and plant species protocols, this section describes the vegetation (terrestrial biodiversity) and plant species encountered in two subsections. In the plant species subsection specific reference is made, among other, to species of conservation concern (SCC) and protected tree species.

Terrestrial biodiversity (vegetation)

The vegetation types found in the study area can be described as a mixture of Rûens Silcrete Renosterveld and Eastern Rûens Shale Renosterveld. The botanical attributes of the site are presented in **Figure 5-1**. The green areas include thicket patches, silcrete and shale renosterveld, as well as fallow land in an advanced stage of recovery. It is difficult to distinguish between the two renosterveld types on site due to weathering. For example, the preferred site for the solar plant is located inside silcrete fynbos (currently fallow land), but it is highly weathered leaving only a loose gravelly surface (**Figure 5-2**). Otherwise, the silcrete renosterveld is more evident on the elevated, rocky areas, and the shale renosterveld on the gentle slopes below (**Figures 5-3** to **5-5**). A few patches of good quality silcrete renosterveld remain as these areas were probably too rocky to cultivate.

A few patches of thicket were also noted inside the renosterveld, as well as thicket elements along the watercourses (**Figures 5-6** & **5-7**). These are either fire-protected areas which provided a safe haven for taller shrubs and trees, or relict Albany Thicket communities from the distant past. The preferred site for the solar plant and immediate adjacent areas are currently lying fallow, with scattered, pioneer renosterveld species

slowly returning. However, these areas are still in a highly degraded state and will take a long time (15-20 years) to return to what can be described as secondary (regrowth) renosterveld. The rest of the study area is under cultivation (wheat) or is highly compromised/disturbed by small farmer activities (**Figures 5-8** & **5-9**). All the alternative sites for the solar plant are located in cultivated or recently cultivated areas.

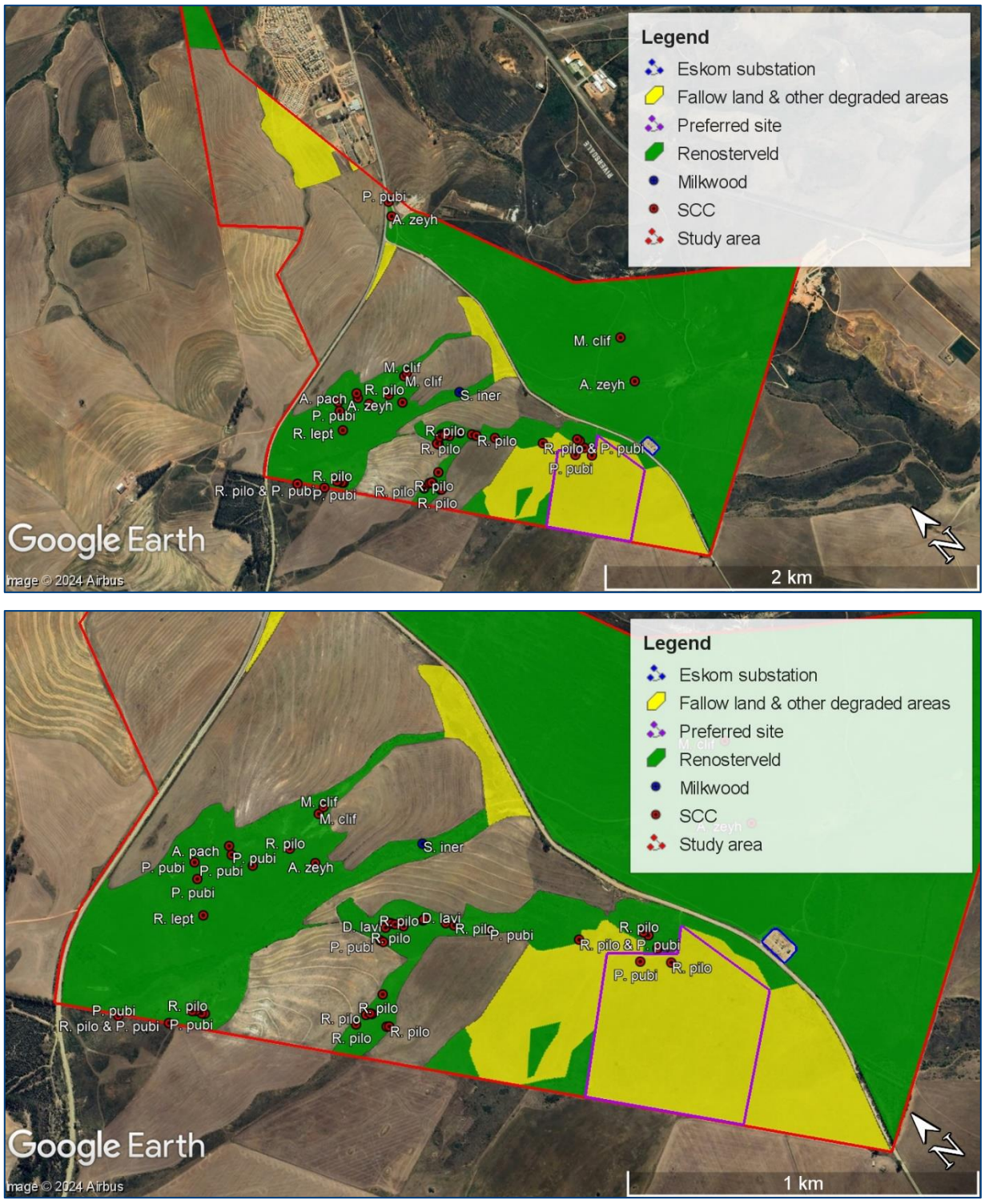

Figure 5-1: Botanical attributes of the site (close-up of focus area below). The untoned areas are currently under cultivation.

Figure 5-2: Typical view of the preferred site for the solar plant.

Figure 5-3: Silcrete renosterveld between two of the alternative sites northwest of preferred site.

Figure 5-4: Shale renosterveld (advanced regrowth) on a slope in the western corner of site.

Figure 5-5: Shale renosterveld inside the Werner Frehse Nature Reserve part of the site.

Figure 5-6: Patch of thicket north of the preferred site for solar plant.

Figure 5-7: Strip of riverine thicket between two of the alternative sites (cultivated fields).

Figure 5-8: One of the alternative sites earmarked for the solar plant.

Figure 5-9: Small farmer (sheep and cattle) activities in the northern part of study area.

Structurally, the renosterveld can be classified as a low to mid-high (0.3-1.7 m) closed small-leaved shrubland following Campbell's classification (Campbell, 1981). Vegetation height and cover drop on the silcrete patches and where there is grazing pressure, changing the vegetation into a low mid-dense shrubland. The dominant species are typical renosterveld species, such as *Dicerothamnus rhinocerotis, Oedera genistifolia, Athanasia trifurcata* and *Helichrysum patulum*. The thicket patches can be classified as a tall (2-3 m) closed large-leaved shrubland. The thicket along the drainage lines is often more disturbed and has a more open structure. It includes typical thicket species such as *Aloe arborescens, Pterocelastrus tricuspidatus, Sideroxylon inerme, Gymnosporia buxifolia* and *Carissa bispinosa.* Disturbances, such as farming activities, dumping, farm tracks, grazing (sheep and cattle) and minor alien infestation, were noted.

Plant species

The following indigenous shrub species were recorded mainly inside the renosterveld remnants, namely *Erica peltata, E. versicolor, Dicerothamnus rhinocerotis* (dominant), *Oedera genistifolia* (dominant), *Osteospermum moniliferum, Nidorella ivifolia, Athanasia trifurcata, A. juncea, A. filiformis, Pteronia incana, Metalasia acuta, M. cf densa, Berkheya cf heterophylla, B. carlinoides, Macledium spinosum, Eriocephalus africanus, Helichrysum patulum* (dominant), *H. rosum, Felicia muricata, Senecio burchellii, S. rosmarinifolius, Ursinia discolor, Curio archeri, Indigofera nigromontana, Aspalathus asparagoides, A. acuminata, A. zeyheri, A. spinosa, Argyrolobium pachyphyllum, Gnidia laxa, G. caniflora, Ruschia tenella, R. leptocalyx, R. lineolata, Drosanthemum floribundum* (dominant groundcover), *D. parvifolium, D. lavisii, D. calycinum, D. asperulum, Cephalophyllum diversiphyllum, Mesembryanthemum parviflorum, M. paulum, Delosperma testaceum, Lampranthus elegans, Haworthia retusa, H. magnifica, Aloe ferox, Crassula cf atropurpurea, C. ericoides, C. subulata, Anacampseros lanceolata, Polygala myrtifolia, P. garcinii, P. pubiflora, Lycium pumilum, Montinia caryophyllacea, Asparagus mariae, A. suaveolens, A. multiflorus, A. mucronatus, Hermannia flammula, H. alnifolia, Hibiscus pusillus, Abutilon sonneratianum, Muraltia spinosa, M. cf rhamnoides, M. cliffortiifolia, Agathosma foetidissima, Pelargonium caucalifolium* ssp. *convolvulifolium, Chironia baccifera, Anthospermum aethiopicum, Clutia daphnoides, Ruellia pilosa, Barleria pungens, Blepharis capensis, Gomphocarpus fruticosus, Solanum linnaeanum, Selago ramosissima* and *S. dolosa.*

Hemicryptophytes and geophytes recorded include *Anemia caffrorum, Cheilanthes viridis, Cynodon dactylon*, *Restio capensis, Commelina africana, Cyanotis speciosa, Haemanthus sanguineus* and *Bobartia orientalis* ssp. *orientalis*. The thicket patches are populated by taller shrubs and small trees, such as *Aloe arborescens, Pterocelastrus tricuspidatus, Gymnosporia buxifolia, Lauridia tetragona, Carissa bispinosa, Sideroxylon inerme, Euclea undulata, Olea europaea* ssp. *cuspidata, Searsia pallens, S. lucida, S. rehmanniana* var. *glabrata, S. pterota, Grewia occidentalis, Diospyros dichrophylla, Cotyledon orbiculata, Asparagus aethiopicus* and the creeper *Cynanchum obtusifolium*.

Several of the taxa are important in Rûens Silcrete Renosterveld and Eastern Rûens Shale Renosterveld, such as *Dicerothamnus rhinocerotis*, *Oedera genistifolia, Athanasia trifurcata, Macledium spinosum, Aspalathus zeyheri, Drosanthemum asperulum* and *Agathosma foetidissima.* Error! Reference source not found.**10** shows a few of the indigenous species.

Figure 5-10: A few indigenous species recorded on site, with *Ruellia pilosa* (top left), *Haworthia retusa* (top right), *Haemanthus sanguineus* (middle left), *Macledium spinosum* (middle right), *Drosanthemum lavisii* (bottom left) and *Muraltia cliffortiifolia* (bottom right).

Species of Conservation Concern & protected species

Thirteen Species of Conservation Concern (SCC) were recorded on site, namely:

- ***Argyrolobium pachyphyllum*** (EN; Caledon to Riversdale; renosterveld)
- ***Aspalathus zeyheri*** (VU; Swellendam and Potberg to Riversdale; renosterveld)
- ***Ruschia leptocalyx*** (EN; Potberg to Mossel Bay; renosterveld, ferricrete fynbos and Gouritz Valley Thicket)
- ***Drosanthemum lavisii*** (EN; Bredasdorp to Riversdale; renosterveld and ferricrete fynbos)
- ***Drosanthemum calycinum*** (NT; Clanwilliam to Mossel Bay; renosterveld)
- ***Cephalophyllum diversiphyllum*** (NT; Bredasdorp to Mossel Bay; coastal fynbos and renosterveld)
- ***Haworthia retusa*** (DDT; Bredasdorp and Swellendam to Mossel Bay; renosterveld)
- ***Haworthia magnifica*** (Heidelberg to Albertinia; renosterveld)
- ***Polygala pubiflora*** (VU; Cape Infanta to Mossel Bay; renosterveld)
- ***Muraltia cliffortiifolia*** (VU; Rooiberg and from Riversdale to Mossel Bay; renosterveld and thicket)
- ***Agathosma foetidissima*** (NT; Bredasdorp to Riversdale; renosterveld)
- ***Ruellia pilosa*** (VU; Swellendam to Mossel Bay; renosterveld and shale fynbos)
- ***Selago ramosissima*** (EN; Riviersonderend to Groot Brak River; renosterveld and fynbos)

Only *Polygala pubiflora* and *Ruellia pilosa* were recorded inside the preferred site for the solar plant (**Figure 5-1**). Some of the recorded SCC are more common than others. For example, *Argyrolobium pachyphyllum, Haworthia magnifica* and *Selago ramosissima* were only observed in a few places in the Riversdale area, while the others are more frequently encountered. Most of the SCC were also recorded (by others) in the Werner Frehse Nature Reserve, which encroaches the site from the east. According to the online Red List of South African Plants[5], these species are threatened by invasive alien species, overgrazing, poor veld management, habitat loss to crop cultivation and urban expansion, as well as illegal collecting (*Haworthia* species). A few *Sideroxylon inerme* (milkwood), a protected tree species in terms of the National Forests Act (Act 84 of 1998), were also recorded in riverine thicket patches in the centre of the study area. The removal of milkwoods requires a permit from the Department of Forestry.

[5] Threatened Species Programme | SANBI Red List of South African Plants

Invasive species

Alien species recorded on site include *Acacia mearnsii* (black wattle, category 2), *Acacia cyclops* (rooikrans, 1b), *Opuntia ficus-indica* (prickly pear, 1b), *Solanum elaeagnifolium* (silver-leaf bitter apple, 1b), *Plantago lanceolata* (buckhorn plantain), *Medicago sativa* (lucerne) and *Lactuca inermis* (African lettuce). Rooikrans is the most common, especially along the watercourses. As indicated above, four of the species are Categories 1b and 2 invaders in the Western Cape. In terms of the National Environmental Management: Biodiversity Act (NEMBA) (Act 10 of 2004) Alien and Invasive Species List (2016), Category 1b invasive species require compulsory control as part of an invasive species control programme. Further in terms of the above Act, the harbouring of black wattle (Category 2 invader) on a property is prohibited without a permit.

Site Ecological Importance

In order to demonstrate the biodiversity sensitivity of the site, a site ecological importance (SEI) map was prepared (**Figure 5-11**). This map considers the biodiversity importance of the receptor area and its resilience to impacts. The receptor area is described as the affected habitat (silcrete and shale renosterveld in this instance), which accommodate certain SCC. A Very High SEI value was allocated to the Werner Rehse Nature Reserve, while the cultivated or recently cultivated areas scored a Very Low value due to its transformed state. The preferred site for the solar plant is located inside an area mapped as Low-medium sensitive due to its size and being considered fallow land. The alternative sites between the renosterveld remnants are located in the least sensitive areas.

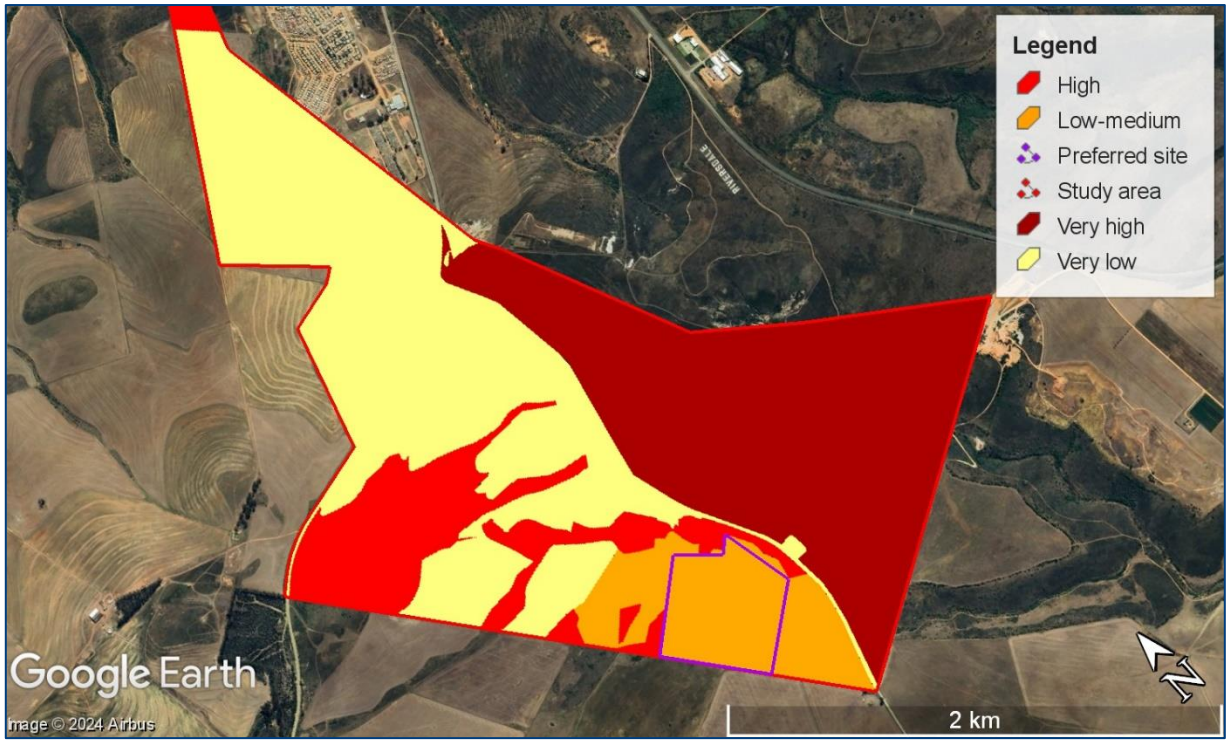

Figure 5-11: Site ecological importance (SEI) map.

6. Potential Impacts

Terrestrial biodiversity (vegetation)

The affected vegetation type (at the preferred site for solar plant) has been identified as Rûens Silcrete Renosterveld. It is highly degraded by past agricultural activities (crop farming) and is still in an early stage of recovery. Historical Google Earth images suggest that this area was last cultivated in *circa* 2005. It therefore conforms to the NEMA definition of 'indigenous vegetation', i.e. fallow land older than 10 years. This implies that Activity 12 of Listing Notice 3 of the NEMA EIA regulations (as amended on 7 April 2017) will be triggered, i.e. the "clearance of an area of 300 m^2 or more of indigenous vegetation within any critically endangered or endangered ecosystem listed in terms of Section 52 of the NEMBA". The total footprint for the solar plant will be 20.5 ha.

Only 14% of Rûens Silcrete Renosterveld is still left, which supports its current listing as Endangered. Due to the nature of the development (i.e. solar panels on frames), it is assumed that most of the substratum will remain intact or can be rehabilitated after construction. Fauna, including small mammals, should be able to move across the site during the operational phase. Due to the degraded state of the site, the impact posed by the development on terrestrial biodiversity is expected to be of medium-low significance before mitigation. If any of the alternative sites are selected for what ever reason, the impact will be less than for the preferred site due to their transformed state and land-use history. In the latter instance, the significance of impact will be low before mitigation.

The site is located outside the Western Cape biodiversity network. However, it abuts a few terrestrial critical biodiversity areas (CBA's) on the north-western and north-eastern sides. These are associated with patches of renosterveld, some of which are degraded. One can therefore only expect a small impact on the functionality of the biodiversity network. It is recommended that the north-eastern side of the site be pulled further back from the road by straightening out the boundary. This should improve the functioning of the biodiversity network on that side. **Table 6-1** summarises the impact on terrestrial biodiversity.

As an indirect impact, soil disturbance caused by construction activities will also provide ideal conditions for the establishment of invasive alien species. The presence of invasive species in the area, such as rooikrans and black wattle, may exacerbate this impact. Therefore, as an operational phase maintenance concern, keep the site and immediate adjacent area clear of invasive aliens. It is recommended that a strip of at least 10 m wide around the site be monitored for aliens during the operational phase. As stated earlier, it is a legal requirement for the landowner to clear/control the invasive aliens on their land.

In the case of the site not being developed (no-go alternative), it will remain fallow land until cultivated again. Authorisation will probably be needed in the latter case. Otherwise, the renosterveld should slowly recover if it is left undisturbed and kept clear of invasive aliens. Continued livestock grazing, an existing impact, will prolong this process.

Table 6-1: Impact on terrestrial biodiversity.

Phase	Construction Phase	Operational Phase
Nature of impact(s)	- Clearing of fallow land - Slight impact on the functionality of biodiversity network. - Increased opportunity for alien infestation.	- Increased alien infestation.
Extent of impact	Development footprint	Development footprint
Duration	Long term	Long term
Intensity	Medium	Medium
Probability of occurrence	High	Medium
Degree of reversibility	Medium	High
Irreplaceability of resource	Medium	Medium-low
Mitigatory potential	Medium	High
Consequence significance	Low-medium	Low
Significance before mitigation	Medium-low	Medium-low
Significance after mitigation	Low	Low
Mitigation		
• Use permeable fencing around the development, which will allow the movement of fauna across the site. Restrict all construction activities, such as stockpiling, parking and office infrastructure, to already disturbed areas away from natural vegetation. The contractor(s) must be made aware of the sensitive surroundings. The renosterveld areas outside the footprint must be declared as 'no-go' areas and not be disturbed in any way. • In order to maintain functioning of the biodiversity network, it is recommended that the north-eastern side of the site be pulled further back from the road by straightening out the boundary. • Pollutant substances brought onto site must be properly contained. • Remove topsoil and/or seedbearing indigenous plant material from the vegetated areas to be disturbed for use in the rehabilitation of disturbed areas after construction. • Where needed or considered practical, rehabilitate/revegetate all the disturbed surfaces. Erosion prevention measures may be needed on steep slopes, such as silt fences, logs or netting, to slow down runoff and potential erosion. Mulching and seeding with indigenous renosterveld seed may also be needed. • Allow at least 12 months for the monitoring of rehabilitation success and alien infestation post construction. Repair erosion damage where needed. Rooikrans, prickly pear and silver-leaf bitter apple are category 1b invaders that require compulsory control as part of an invasive species control programme for the entire property. The harbouring of black wattle (category 2 invader) on a property is prohibited without a permit. Therefore, as an operational phase maintenance concern, keep the site and immediate adjacent area clear of invasive aliens. It is recommended that a strip of at least 10 m wide around the site be monitored for aliens during the operational phase.		

Plant species

The impact on plant species, including SCC and protected tree species, is also expected to be of medium-low significance, prior to mitigation. *Polygala pubiflora* and *Ruellia pilosa* are the only known SCC to occur on the preferred site. These species are fortunately still well represented in the renosterveld remnants outside the site. None of the other SCC were recorded on or nearby the preferred site and will not be affected by the project. Also, no milkwoods, a protected tree species, were recorded on the preferred site. All the species recorded on the site are fairly common and well represented in the larger area. Given their habitat preferences and known iNaturalist records, the probability of SCC listed in the Screening Report to occur in the study area, which includes a part of the Werner Frehse Nature Reserve, is indicated in **Annexure 1**. **Table 6-2** summarises the impact on flora and SCC.

Table 6-2: Impact of the project on flora and SCC.

Phase	Construction Phase	Operational Phase
Nature of impact(s)	- Loss of indigenous flora & SCC	- Alien infestation and resulting displacement of indigenous flora
Extent of impact	Development footprint	Development footprint
Duration	Long term	Long term
Intensity	Medium	Low
Probability of occurrence	High	Low-medium
Degree of reversibility	Medium	High
Irreplaceability of resource	Low-medium	Low-medium
Mitigatory potential	Medium	High
Consequence significance	Low	Low
Significance before mitigation	Medium-low	Low
Significance after mitigation	Low	Low
Mitigation		
• As a duty of care measure, search and rescue of succulents and bulbs from the development footprint is recommended. These can be replanting in the rehabilitation areas after construction. Topsoil, cuttings and seedbearing plant material can also be salvaged for this purpose. Geophytes should be removed along with some soil, placed in gel, bagged and then taken to a nursery for temporary storage or transplanted directly in the receiving area. Ideally, bulbs should be salvaged during leaf fall, but before or after flowering.		

The **cumulative botanical impact** of the project is expected to be equivalent to the impact on terrestrial biodiversity and plant species described above, i.e. the continued erosion of Rûens Silcrete Renosterveld, as well as the loss of SCC. In this instance, the loss

of biodiversity and resultant cumulative impact is expected to be medium-low due to the degraded state of the site.

7. Recommended Mitigation Measures

The following mitigation measures are required to ensure that the impact on terrestrial biodiversity and plant species is minimised:

- Use permeable fencing around the development, which will allow the movement of fauna across the site. Restrict all construction activities, such as stockpiling, parking and office infrastructure, to already disturbed areas away from natural vegetation. The contractor(s) must be made aware of the sensitive surroundings. The renosterveld areas outside the footprint must be declared as 'no-go' areas and not be disturbed in any way.
- In order to maintain functioning of the biodiversity network, it is recommended that the north-eastern side of the site be pulled further back from the road by straightening out the boundary.
- Pollutant substances brought onto site must be properly contained.
- Remove topsoil and/or seedbearing indigenous plant material from the vegetated areas to be disturbed for use in the rehabilitation of disturbed areas after construction. As a duty of care measure, search and rescue of succulents and bulbs from the development footprint is recommended. These can be replanting in the rehabilitation areas after construction. Geophytes should be removed along with some soil, placed in gel, bagged and then taken to a nursery for temporary storage or transplanted directly in the receiving area. Ideally, bulbs should be salvaged during leaf fall, but before or after flowering.
- Where needed or considered practical, rehabilitate/revegetate all the disturbed surfaces. Erosion prevention measures may be needed on steep slopes, such as silt fences, logs or netting, to slow down runoff and potential erosion. Mulching and seeding with indigenous renosterveld seed may also be needed.
- Allow at least 12 months for the monitoring of rehabilitation success and alien infestation post construction. Repair erosion damage where needed. Rooikrans, prickly pear and silver-leaf bitter apple are category 1b invaders that require compulsory control as part of an invasive species control programme for the entire property. The harbouring of black wattle (category 2 invader) on a property is prohibited without a permit. Therefore, as an operational phase maintenance concern, keep the site and immediate adjacent area clear of invasive aliens. It is recommended that a strip of at least 10 m wide around the site be monitored for aliens during the operational phase.

8. Summary & Conclusion

This report sets out the results from a desktop study, as well as a field survey conducted on 17 and 18 January 2024, to ascertain the terrestrial biodiversity and plant species constraints and possible impacts associated with the development of a PV solar plant on Remainder of Erf 2018 outside Riversdale.

The preferred site for the solar plant was previously a cropland but is currently lying fallow. The original vegetation type that occurred here can be classified as Rûens Silcrete Renosterveld. Due to the age of the fallow land (>10 years since it was last cultivated) it is deemed indigenous vegetation as per NEMA definition. This implies that Activity 12 of Listing Notice 3 of the NEMA EIA regulations (as amended on 7 April 2017) will be triggered if it is developed. The prospect of the fallow land recovering (reverting back to good quality renosterveld) in the long term is poor since the area is subject to grazing pressure. The site abuts a few CBA's, but these will not be directly impacted by the project. Only two threatened species were recorded on site, namely *Polygala pubiflora* and *Ruellia pilosa*. These species are fortunately still well represented in the renosterveld remnants outside the site.

Due to the degraded state of the site, the impact on both terrestrial biodiversity and plant species is expected to be of medium-low significance, prior to mitigation. With mitigation, the impact can possibly be lowered to low significance. It can therefore be considered for approval, but subject to the consideration of the proposed mitigation measures. The alternative sites can also be considered as they are all still under cultivation or were recently cultivated. The definition of indigenous vegetation may not apply to those sites.

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Annexure 1: Threatened plant species as listed in the Screening Report (species in bold were recorded on site)

Sensitivity	Feature(s)	Probability of presence in study area
Medium	*Aspalathus campestris*	High
Medium	*Aspalathus millefolia*	Medium
Medium	*Aspalathus steudeliana*	Medium
Medium	***Aspalathus zeyheri***	Recorded in study area
Medium	*Otholobium pungens*	Low-medium
Medium	*Lotononis viborgioides*	Low-medium
Medium	*Leucadendron coriaceum*	Low-medium
Medium	*Hesperantha muirii*	Low-medium
Medium	*Freesia fergusoniae*	iNat records in Werner Frehse NR
Medium	*Hermannia lavandulifolia*	iNat records in Werner Frehse NR
Medium	Sensitive species 1142	Low-medium
Medium	Sensitive species 339	Low-medium
Medium	*Anisodontea pseudocapensis*	Medium
Medium	*Duvalia elegans*	Low-medium
Medium	Sensitive species 1024	Low
Medium	*Gnidia ericoides*	Low-medium
Medium	*Chrysocoma flava*	Medium-high
Medium	*Stoebe rugulosa*	Medium-high
Medium	*Relhania garnotii*	Low-medium
Medium	*Diosma tenella*	Low-medium
Medium	*Acmadenia macropetala*	Low-medium
Medium	*Euchaetis longicornis*	Medium-high
Medium	***Muraltia cliffortiifolia***	Recorded in study area
Medium	***Polygala pubiflora***	Recorded on site
Medium	Sensitive species 692	Low-medium
Medium	Sensitive species 980	Low-medium
Medium	***Ruellia pilosa***	Recorded on site
Medium	*Phylica elimensis*	Low-medium
Medium	Sensitive species 822	Low-medium
Medium	***Drosanthemum lavisii***	Recorded in study area

Sensitivity	Feature(s)	Probability of presence in study area
Medium	~~*Drosanthemum micans*~~	Breede River Valley endemic
Medium	*Drosanthemum striatum*	iNat records in Werner Frehse NR
Medium	*Romulea jugicola*	Low-medium
Medium	Sensitive species 521	Medium
Medium	Sensitive species 142	Low-medium
Medium	*Elegia squamosa*	Medium
Medium	*Diosma passerinoides*	Medium
Medium	*Agathosma microcarpa*	Medium-high (unconfirmed iNat record in Werner Frehse NR)

Annexure 2: Site Ecological Importance

Site Ecological Importance (SEI) is considered to be a function of the biodiversity importance (BI) of the receptor (e.g. SCC, the vegetation community or habitat type present on site) and its resilience to impacts (receptor resilience or RR) as follows:

SEI = BI + RR

BI in turn is a function of conservation importance (CI) and the functional integrity (FI) of the receptor as follows:

BI = CI + FI

Conservation importance (CI) is evaluated in accordance with recognised established internationally principles and criteria for the determination of biodiversity-related value, including the IUCN Red List of Species, Red List of Ecosystems and key biodiversity areas. CI is defined here as: "The importance of a site for supporting biodiversity features of conservation concern present, e.g. populations of SCC (CR, EN, VU & NT), Rare species, range-restricted species, and areas of threatened ecosystem types, through mainly natural processes". Fulfilling criteria to evaluate CI do not rely on a single specific threshold for each of the above defining characteristics but can act in combination or in isolation, providing a more robust evaluation of CI (Table 1).

Table 1: Conservation importance (CI) criteria.

CI	Criteria
Very high	Confirmed or highly likely occurrence of CR, EN, VU or Extremely Rare or Critically Rare species that have a global EOO of <10 km^2. Any area of natural habitat of a CR ecosystem type or large area (>0.1% of the total ecosystem type extent) of natural habitat of EN ecosystem type.
High	Confirmed or highly likely occurrence of CR, EN and VU species that have a global EOO of >10 km^2. IUCN threatened species (CR, EN & VU) must be listed under any criterion other than A. If listed as threatened only under Criterion A, include if there are less than 10 locations or <10 000 mature individuals remaining. Small area (>0.01% but <0.1% of the total ecosystem type extent) of natural habitat of EN ecosystem type or large area (>0.1%) of natural habitat of VU ecosystem type. Presence of Rare species.
Medium	Confirmed or highly likely occurrence of populations of NT species, threatened species (CR, EN & VU) listed under Criterion A only and which have more than 10 locations or more than 10 000 mature individuals. Any area of natural habitat of threatened ecosystem type with status of VU. Presence of range-restricted species.
Low	>50% of receptor contains natural habitat with potential to support SCC. No confirmed or highly likely populations of SCC.

CI	Criteria
	No confirmed or highly likely populations of range-restricted species. <50% of receptor contains natural habitat with limited potential to support SCC.
Very low	No confirmed and highly unlikely populations of SCC. No confirmed and highly unlikely populations of range-restricted species. No natural habitat remaining.

Functional integrity (FI) of the receptor (e.g. the vegetation community or habitat type) is defined here as the receptors' current ability to maintain the structure and functions that define it, compared to its known or predicted state under ideal conditions. Ecological processes can be considered to be mostly intact and functional if the receptor area has low levels of current ecological disruptors, has good connectivity to other areas and is a relatively large area. As for CI, the fulfilling criteria to evaluate FI do not rely on a single specific threshold for each of the above defining characteristics but can act in combination or in isolation (Table 2).

Table 2: Functional integrity (FI) criteria.

FI	Criteria
Very high	Very large (>100 ha) intact area for any conservation status of ecosystem type or >5 ha for CR ecosystem types. High habitat connectivity serving as functional ecological corridors, limited road network between intact habitat patches. No or minimal current negative ecological impacts with no signs of major past disturbance (e.g. ploughing).
High	Large (>20 ha but <100 ha) intact area for any conservation status of ecosystem type or >10 ha for EN ecosystem types. Good habitat connectivity with potentially functional ecological corridors and a regularly used road network between intact habitat patches. Only minor current negative ecological impacts (e.g. few livestock utilising area) with no signs of major past disturbance (e.g. ploughing) and good rehabilitation potential.
Medium	Medium (>5 ha but <20 ha) semi-intact area for any conservation status of ecosystem type or >20 ha for VU ecosystem types. Only narrow corridors of good habitat connectivity or larger areas of poor habitat connectivity and a busy used road network between intact habitat patches. Mostly minor current negative ecological impacts with some major impacts (e.g. established population of alien and invasive flora) and a few signs of minor past disturbance. Moderate rehabilitation potential.
Low	Small (>1 ha but <5 ha) area. Almost no habitat connectivity but migrations still possible across some modified or degraded natural habitat and a very busy used road network surrounds the area. Low rehabilitation potential. Several minor and major current negative ecological impacts.
Very low	Very small (<1 ha) area.

FI	Criteria
	No habitat connectivity except for flora with wind-dispersed seeds. Several major current negative ecological impacts

Recalling that biodiversity importance (BI) is a function of conservation importance (CI) and the functional integrity (FI) of a receptor, BI can be derived from a simple matrix of CI and FI as follows:

Biodiversity importance		Conservation importance				
		Very high	High	Medium	Low	Very low
Functional integrity	Very high	Very high	Very high	High	Medium	Low
	High	Very high	High	Medium	Medium	Low
	Medium	High	Medium	Medium	Low	Very low
	Low	Medium	Medium	Low	Low	Very low
	Very low	Medium	Low	Very low	Very low	Very low

Receptor resilience (RR) is defined here as: "The intrinsic capacity of the receptor (e.g. a vegetation unit) to resist major damage from disturbance and/or to recover to its original state with limited or no human intervention." The fulfilling criteria to evaluate RR are based on the type of disturbance and estimated recovery time required to restore an appreciable portion of functionality to the receptor (Table 3) and will require justification by the specialist.

Table 3: Receptor resilience (RR) criteria.

RR	Criteria
Very high	Habitat that can recover rapidly (<5 years) to restore >75% of the original species composition and functionality of the receptor functionality, or species that have a very high likelihood of remaining at a site even when a disturbance or impact is occurring, or species that have a very high likelihood of returning to a site once the disturbance or impact has been removed.
High	Habitat that can recover relatively quickly (5-10 years) to restore >75% of the original species composition and functionality of the receptor functionality, or species that have a high likelihood of remaining at a site even when a disturbance or impact is occurring, or species that have a high likelihood of returning to a site once the disturbance or impact has been removed.
Medium	Will recover slowly (>10 years) to restore >75% of the original species composition and functionality of the receptor functionality, or species that have a moderate likelihood of remaining at a site even when a disturbance or impact is occurring, or species that have a moderate likelihood of returning to a site once the disturbance or impact has been removed.
Low	Habitat that is unlikely to be able to recover fully after a relatively long period: >15 years required to restore ~ less than 50% of the original species composition and

RR	Criteria
	functionality of the receptor functionality, or species that have a low likelihood of remaining at a site even when a disturbance or impact is occurring, or species that have a low likelihood of returning to a site once the disturbance or impact has been removed.
Very low	Habitat that is unable to recover from major impacts, or species that are unlikely to remain at a site even when a disturbance or impact is occurring, or species that are unlikely to return to a site once the disturbance or impact has been removed.

Finally, after the successful evaluation of both BI and RR as described above, it is possible to evaluate the **site ecological importance (SEI)** from the final matrix as follows:

Site ecological importance		Biodiversity importance				
		Very high	High	Medium	Low	Very low
Receptor resilience	Very low	Very high	Very high	High	Medium	Low
	Low	Very high	Very high	High	Medium	Very low
	Medium	Very high	High	Medium	Low	Very low
	High	High	Medium	Low	Very low	Very low
	Very high	Medium	Low	Very low	Very low	Very low

Table 4: Guidelines for interpreting SEI in the context of the proposed development activities.

SEI	Interpretation in relation to proposed development activities
Very high	Avoidance mitigation - no destructive development activities should be considered. Offset mitigation not acceptable/not possible (i.e. last remaining populations of species, last remaining good condition patches of ecosystems/unique species assemblages). Destructive impacts for species/ecosystems where persistence target remains.
High	Avoidance mitigation wherever possible. Minimisation mitigation - changes to project infrastructure design to limit the amount of habitat impacted; limited development activities of low impact acceptable. Offset mitigation may be required for high impact activities.
Medium	Minimisation and restoration mitigation - development activities of medium impact acceptable followed by appropriate restoration activities.
Low	Minimisation and restoration mitigation - development activities of medium to high impact acceptable followed by appropriate restoration activities.
Very low	Minimisation mitigation - development activities of medium to high impact acceptable and restoration activities may not be required.

Annexure 3: Impact Assessment Methodology

Each issue that is identified consists of components that on their own or in combination with each other give rise to potential impacts, either positive or negative, from the project onto the environment or from the environment onto the project. In the EIA the significance of the potential impacts is considered before and after identified mitigation is implemented, for direct, indirect, and cumulative impacts, in the short and long term.

A description of the nature of the impact, any specific legal requirements and the stage (construction/decommissioning or operation) were given. The following criteria will be used to evaluate the significance of each issue that was identified:

Nature: This is an appraisal of the type of effect the activity is likely to have on the affected environment. The description includes what is being affected and how. The nature of the impact will be classified as positive or negative, and direct or indirect.

- **Extent and location**: This indicates the spatial area that may be affected (**Table 1**).

Table 1: Geographical extent of impact

Rating	Extent	Description
1	Site	Impacted area is only at the site – the actual extent of the activity.
2	Local	Impacted area is limited to the site and its immediate surrounding area
3	Regional	Impacted area extends to the surrounding area, the immediate and the neighbouring properties.
4	Provincial	Impact considered of provincial importance
5	National	Impact considered of national importance – will affect entire country.

- **Duration**: This measures the lifetime of the impact (**Table 2**).

Table 2: Duration of Impact

Rating	Duration	Description
1	Short term	0–3 years, or length of construction period
2	Medium term	3–10 years
3	Long term	>10 years, or entire operational life of project.
4	Permanent – mitigated	Mitigation measures of natural process will reduce impact – impact will remain after operational life of project.
5	Permanent – No mitigation	No mitigation measures of natural process will reduce the impact after implementation – impact will remain after operational life of project.

- **Intensity/severity**: This is the degree to which the project affects or changes the environment; it includes a measure of the reversibility of impacts (**Table 3**).

Table 3: Intensity of Impact

Rating	Intensity	Description
1	Negligible	Change is slight, often not noticeable, natural functioning of environment not affected.
2	Low	Natural functioning of environment is minimally affected. Natural processes can be reversed to their original state.
3	Medium	Environment remarkably altered, still functions, if in modified way. Negative impacts cannot be fully reversed.
4	High	Natural functions and processes disturbed – potentially ceasing to function temporarily.
5	Very high	Natural functions and processes permanently cease, and valued, important, sensitive or vulnerable systems or communities are substantially affected. Negative impacts cannot be reversed.

- **Potential for irreplaceable loss of resources**: This is the degree to which the projectwill cause loss of resources that are irreplaceable (**Table 4**).

Table 4: Potential for irreplaceable loss of resources.

Rating	Potential for irreplaceable loss	Description
1	Low	No irreplaceable natural resources will be impacted.
3	Medium	Natural resources can be replaced, with effort.
5	High	There is no potential for replacing a particular vulnerable resource that will be impacted.

- **Probability**: This is the likelihood or the chances that the impact will occur (**Table 5**).

Table 5: Probability of Impact

Rating	Probability	Description
1	Improbable	Under normal conditions, no impacts expected.
2	Low	The probability of the impact to occur is low due to its design or historic experience.
3	Medium	There is a distinct probability of the impact occurring.
4	High	It is most likely that the impact will occur.
5	Definite	The impact will occur regardless of any prevention measures.

- **Confidence**: This is the level of knowledge or information available, the specialist had in his/her judgement (**Table 6**).

Table 6: Confidence in level of knowledge or information

Rating	Confidence	Description
	Low	Judgement based on intuition, not knowledge/information.
	Medium	Common sense and general knowledge inform decision.
	High	Scientific/proven information informs decision.

- **Consequence**: This is calculated as extent + duration + intensity + potential impact on irreplaceable resources.

- **Significance**: The significance will be rated by combining the consequence of the impact and the probability of occurrence (i.e. consequence x probability = significance). The maximum value which can be obtained is 100 significance points (**Table 7**).

Table 7: Significance of issues (based on parameters)

Rating	Significance	Description
1-14	Very low	No action required.
15-29	Low	Impacts are within the acceptable range.
30-44	Medium-low	Impacts are within the acceptable range but should be mitigated to lower significance levels wherever possible.
45-59	Medium-high	Impacts are important and require attention; mitigation is required to reduce the negative impacts to acceptable levels.
60-80	High	Impacts are of great importance, mitigation is crucial.
81-100	Very high	Impacts are unacceptable.

- **Cumulative Impacts**: This refers to the combined, incremental effects of the impact. The possible cumulative impacts will also be considered.