HERITAGE IMPACT ASSESSMENT

In terms of Section 38(8) of the NHRA for the

Proposed Development of the Hardeveld PV Facility and Associated Infrastructure on Remaining Extent (Portion 0) of Farm 423 near Beaufort West, Western Cape

Prepared by CTS Heritage

CTS HERITAGE

For

Hardeveld PV (Pty) Ltd

November 2021

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EXECUTIVE SUMMARY

1. Site Name:

Hardeveld PV Facility

2. Location:

Remaining Extent of Farm 423

3. Locality Plan:

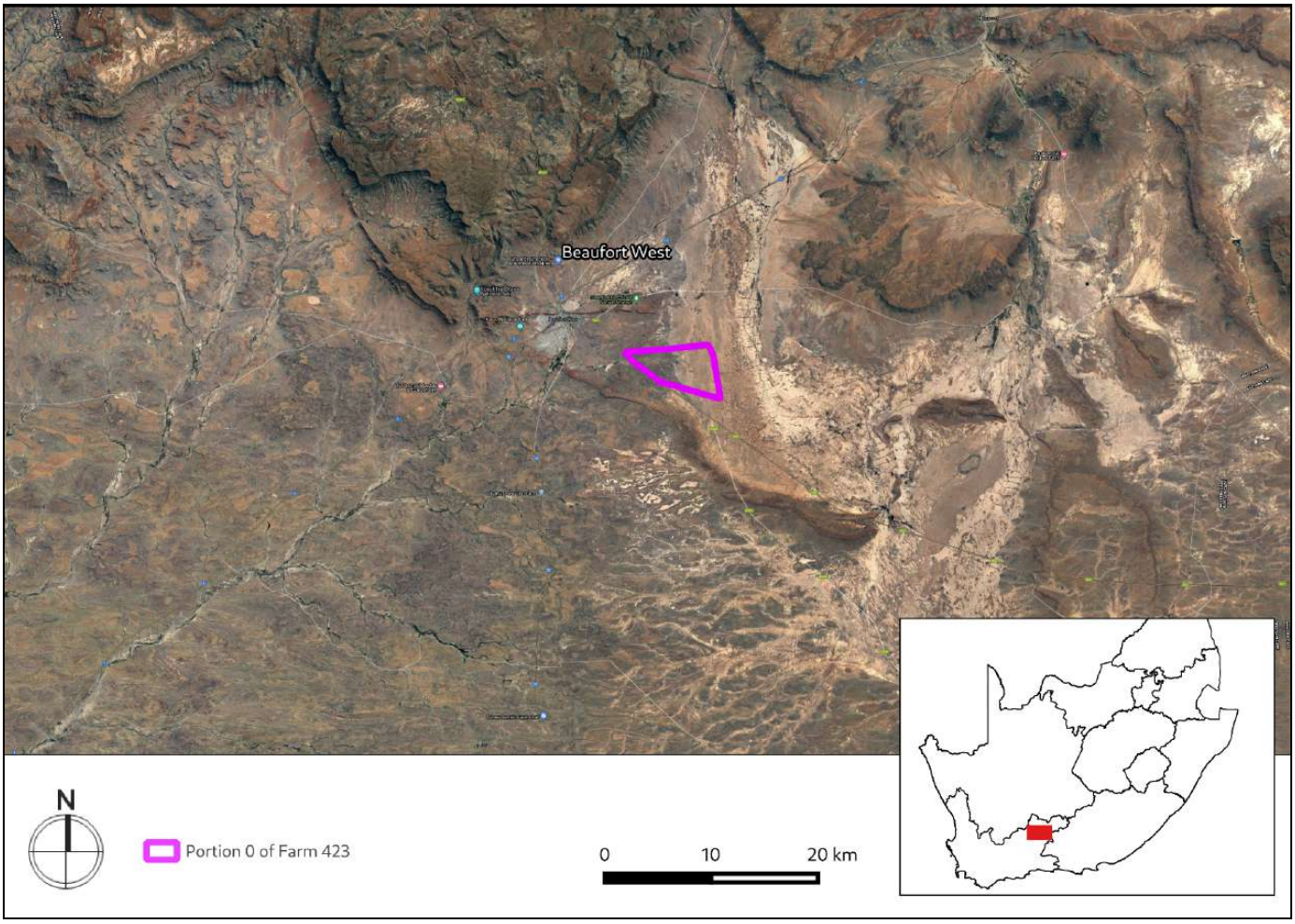

Figure 1: Location of the proposed development area

4. Description of Proposed Development:

Hardeveld PV (Pty) Ltd, a Special Purpose Vehicle (SPV), the Applicant, proposes the development of a 100 MW (AC) solar photovoltaic (PV) facility, as well as associated infrastructure on the Remaining Extent (Portion 0) of Farm 423 near the town of Beaufort West in the Western Cape Province. The solar PV facility will be known as Hardeveld PV (hereafter referred to as "the facility"). The study area falls within the jurisdiction of the Beaufort

West Municipality and the greater Central Karoo District Municipality, as well as the Beaufort West Renewable Energy Development Zone (REDZ) (REDZ11).

Five additional 100 MW PV facilities are concurrently being considered on the property and are assessed through separate Basic Assessment processes, namely:

- Bulskop PV;
- Rosenia PV;
- Hoodia PV;
- Salsola PV; and
- Gamka PV.

The facility will comprise of solar PV technology with fixed, single or double axis tracking mounting structures, with a net generation (contracted) capacity of 100 MW_{AC} (MegaWatts), as well as associated infrastructure, which will include:

- On-site substation / collector switching station;
- Auxiliary buildings (gate-house and security, control centre, office, warehouse, canteen & visitors centre, staff lockers etc.);
- Inverter-stations, transformers and internal electrical reticulation (underground cabling);
- Battery Energy Storage System (BESS);
- Access and internal road network;
- Temporary and permanent laydown areas;
- Rainwater tanks; and
- Perimeter fencing and security infrastructure.

The facility intends to connect to the National Grid via the Droerivier Main Transmission Substation (MTS) (approximately 15 km west of the facility), however, the grid connection infrastructure associated with this grid solution is being assessed as part of a separate application.

5. Heritage Resources Identified:

The findings of this assessment largely correlate with the findings of other assessments completed in the vicinity such as the findings of the ACO (2013, SAHRIS NID 503074) who note that “Because of the scarcity of caves and shelters, more than 90% of Karoo archaeological sites are open sites of stone artefacts, ostrich eggshell fragments and occasionally, pottery. Bone remains are rarely preserved. Artefacts of both the Early and Middle Stone Age are widespread and may generally be described as an ancient litter that occurs at a low frequency across the landscape.” This same archaeological signature has been identified within the development footprint.

It is noted that high numbers of quarried stone artefacts predominantly from the Middle Stone Age period were found on this property which is consistent with observations on neighbouring farms through impact assessments and research surveys. These artefacts are particularly visible in deflated open sites where the top soil has washed away onto a harder gravel surface. No shelters were found on the property and no rock paintings, graves or engravings were located.

Given the very sparse occurrence of recorded fossils in the region, and their unpredictable occurrence, it is concluded that the Hardeveld PV facility is of LOW palaeosensitivity. No further specialist palaeontological studies or mitigation are recommended for this electrical infrastructure project. The Chance Fossil Finds Protocol appended to this report should be included in the EMPr for the developments.

No mitigation measures are recommended from a cultural landscape perspective given the low heritage significance of the landscape directly affected by the project and the low impact on the broader landscape context.

Based on the assessments completed, few sensitive heritage resources of low local cultural value have been identified within or in proximity to the proposed development footprint. These include the R61, Hansrivier Farmhouse Complex, an MSA artefact scatter and a small fossil exposure.

6. Anticipated Impacts on Heritage Resources:

No impact to the identified heritage resources is anticipated from the proposed development of the Hardeveld PV Facility. As such, the proposed development is acceptable from a heritage perspective and there is no objection to its authorisation from a heritage perspective.

7. Recommendations:

Based on the outcomes of this report, it is not anticipated that the proposed development of the solar PV facility will negatively impact on significant heritage resources. The following recommendations are made:

- The HWC Chance Fossil Finds Procedure must be implemented for the duration of construction activities
- Although all possible care has been taken to identify sites of cultural importance during the investigation of the study area, it is always possible that hidden or subsurface sites could be overlooked during the assessment. 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, burials or other categories of heritage resources are found during the proposed development, work must cease in the vicinity of the find and HWC must be alerted immediately to determine an appropriate way forward.

8. Author/s and Date:

Jenna Lavin

October 2021

Details of Specialist who prepared the HIA

Jenna Lavin, an archaeologist with an MSc in Archaeology and Palaeoenvironments, and currently completing an MPhil in Conservation Management , heads up the heritage division of the organisation, and has a wealth of experience in the heritage management sector. Jenna's previous position as the Assistant Director for Policy, Research and Planning at Heritage Western Cape has provided her with an in-depth understanding of national and international heritage legislation. Her 8 years of experience at various heritage authorities in South Africa means that she has dealt extensively with permitting, policy formulation, compliance and heritage management at national and provincial level and has also been heavily involved in rolling out training on SAHRIS to the Provincial Heritage Resources Authorities and local authorities.

Jenna is on the Executive Committee of the Association of Professional Heritage Practitioners (APHP), and is also an active member of the International Committee on Monuments and Sites (ICOMOS) as well as the International Committee on Archaeological Heritage Management (ICAHM). In addition, Jenna has been a member of the Association of Southern African Professional Archaeologists (ASAPA) since 2009. Recently, Jenna has been responsible for conducting training in how to write Wikipedia articles for the Africa Centre's WikiAfrica project.

Since 2016, Jenna has drafted over 250 Screening and Heritage Impact Assessments throughout South Africa.

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APPENDICES

1. INTRODUCTION

1.1 Background Information on Project

Hardeveld PV (Pty) Ltd, a Special Purpose Vehicle (SPV), the Applicant, proposes the development of a 100 MW (AC) solar photovoltaic (PV) facility, as well as associated infrastructure on the Remaining Extent (Portion 0) of Farm 423 near the town of Beaufort West in the Western Cape Province. The solar PV facility will be known as Hardeveld PV (hereafter referred to as "the facility"). The study area falls within the jurisdiction of the Beaufort West Municipality and the greater Central Karoo District Municipality, as well as the Beaufort West Renewable Energy Development Zone (REDZ) (REDZ11).

Five additional 100 MW PV facilities are concurrently being considered on the property and are assessed through separate Basic Assessment processes, namely:

- Bulskop PV;
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The facility will comprise of solar PV technology with fixed, single or double axis tracking mounting structures, with a net generation (contracted) capacity of 100 MW_{AC} (MegaWatts), as well as associated infrastructure, which will include:

- On-site substation / collector switching station;
- Auxiliary buildings (gate-house and security, control centre, office, warehouse, canteen & visitors centre, staff lockers etc.);
- Inverter-stations, transformers and internal electrical reticulation (underground cabling);
- Battery Energy Storage System (BESS);
- Access and internal road network;
- Temporary and permanent laydown areas;
- Rainwater tanks; and
- Perimeter fencing and security infrastructure.

The facility intends to connect to the National Grid via the Droerivier Main Transmission Substation (MTS) (approximately 15 km west of the facility), however, the grid connection infrastructure associated with this grid solution is being assessed as part of a separate application.

Table 1.1: Project Details - Applicant Details

Applicant Details	**Description**
Applicant Name:	Hardeveld PV (Pty) Ltd Hardeveld PV (Pty) Ltd is a Special Purpose Vehicle (SPV) incorporated for the sole purpose of developing, constructing, and operating a proposed 100 MW solar PV facility located on the Farm 423 Portion 0.
Company Registration Number:	2021/860694/07
BBBEE Status:	n/a
Project Name:	Hardeveld PV

Table 1.2: Project Details - Site Details

Site Details	**Description**	**Size**
Size of the property:	Description and Size in hectares of the affected property.	Farm 423 Portion 0. Total Property Size: 2667.0374 ha
Size of the study area .	This includes the total footprint of PV panels, auxiliary buildings, onsite substation, BESS, inverter stations and internal roads	2667.0374 ha
Development Footprint .	This includes the total footprint of PV panels, auxiliary buildings, onsite substation, BESS, inverter stations and internal roads	Approximately 242ha

Table 1.3: Project Details - Technology Details

TECHNOLOGY DETAILS		
Capacity of the facility	Capacity of facility (in MW)	Net generation (contracted) capacity of up to100MWac

Solar Technology selection	Type of technology	Solar photovoltaic (PV) technology (monofacial or bifacial) with fixed, single or double axis tracking mounting structures, as well as associated infrastructure, which will include: ● Laydown area. ● Access and Internal Road network. ● Auxiliary buildings (33kV switch room, gatehouse and security, control centre, office, warehouse, canteen & visitors centre, staff lockers etc.). ● Facility substation. ● Inverter-station, transformers and internal electrical reticulation (underground cabling). ● Battery Energy Storage System (BESS). ● Rainwater Tanks; and ● Perimeter fencing and security infrastructure.
	Structure height	Solar panels with a maximum height of ± 5.5m above the ground
	Surface area to be covered	Approximately 242 ha (including associated infrastructure such as all buildings and internal roads)
	Structure orientation	Fixed-tilt: north-facing at a defined angle of tilt, or Single or double axis tracking: mounted in a north-south orientation, tracking from east to west.
	Laydown area dimensions	Approximately 2-5 ha laydown area will be required for each PV facility (the laydown areas will not exceed 5ha and will be situated within the assessed footprint).
	BESS	A technical report will be sent which includes the details of the proposed Battery Energy Storage System (BESS). ● Area: up to ± 4 ha ● Capacity: Unspecified (we would prefer to only limit the physical size) ● Technology: Solid-state/ non-liquid type batteries,

Table 1.4: Project Details - Technology Details

Own-Build Grid Connection		
	Size and capacity of on-site substation	It is estimated that the maximum size of each facility substation will not exceed 1ha. The facility substation will collect the power from the facility and transform it from medium voltage (up to 33kV) to high voltage (132 kV). Each facility will require inverter-stations, transformers, switchgear and internal electrical reticulation (underground cabling). For the Hardeveld PV facilities, the preferred substation position is located adjacent to the proposed Bulskop Collector Switching Station, and not adjacent to the PV arrays (please note: Bulskop Collector Switching Station and the 132kV overhead line to the Droerivier MTS is being assessed in a separate BA). Therefore, Hardeveld PV will require additional MV cabling from an on-site MV switch room to the facility substation. A 50 m wide corridor of approximately 1.3 km
	Length and capacity of on-site powerlines / cabling.	

		long has been assessed to allow for micro-siting.
Auxiliary Infrastructure		
Other infrastructure	Additional Infrastructure	• Auxiliary buildings of approximately 1 ha, including (but not limited to) a 33kV switch room, a gate house, ablutions, workshops, storage and warehousing areas, site offices and a control centre. • Rainwater tanks; and • Electrified perimeter fencing not exceeding 5 m in height.
	Details of access roads	The main access roads will not exceed 10m in width. The access road will comprise of a new road, as well as the expansion of sections of the existing farm road.
	Details of internal roads	A network of gravel internal access roads and perimeter roads with a width of up to ± 5 m, will be constructed to provide access to the various components of each facility.
	Extent of areas required for laydown of materials and equipment	Approximately 2-5 ha of laydown areas will be required during construction (laydown areas will not exceed 5 ha). A permanent laydown area of a maximum of 1 ha will remain.

Table 1.5: Project Details - Component Details

COMPONENT DETAILS	**Description/ Dimensions**
Location of the site	Approximately 13 km south east of Beaufort West town along the R61 road.
Respective surface areas to be covered by different components of the project (including associated infrastructure such as roads, buildings, etc.) which when combined make up the full development footprint.	• PV structures/ modules area: Approximately 219 ha. • Laydown area: 2 - 5 ha • Access Road: Approximately 4 ha • Internal roads Approximately 8 ha • Onsite Facility substation: Up to 1 ha • Ancillary Buildings: Up to 1 ha • Battery Energy Storage System (BESS): Up to 4 ha
SG Codes	C0090000000042300000

Preferred Site access	The main site access point will be via a new access point off the R61 as indicated in the KMZ as the preferred alternative. A 10m wide and approximately 5 km long main gravel/hard surfaced access road will be constructed to provide direct access to the Hardeveld PV facility. The road will be tarred if necessary. A network of gravel internal access roads, each with a width of up to ± 5 m, will be constructed to provide access to the various components of the Hardeveld PV development.
Export capacity	Up to 100 MWac
Proposed technology	Monofacial or Bifacial PV panels, mounted on either fixed-tilt, single-axis tracking, and/or double-axis tracking systems
Height of installed panels from ground level	Solar panels with a maximum height of ± 5.5 m from above the ground.

1.2 Description of Property and Affected Environment

The Remaining Extent (Portion 0) of Farm 423 (hereafter referred to as "the study area") holds the area envisaged for the solar PV facility (hereafter referred to as the "development footprint"). The study area lies south and southeast of Beaufort West and is abutted by the R61 main road to Graaff-Reinet along the western boundary. The Hansrivier farm, currently abandoned, lies to the west of the study area. The entire study area was surveyed in order to inform the layouts of the solar PV facility.

The site is located in the Karoo Region of the Western Cape. It is within the arid zone of South Africa where the rainfall is low and erratic, and where the main farming activity is sheep and goat production. Crop production in general only takes place where there is irrigation water available. Occasionally, opportunistic cropping is practiced and then only after rainwater has been stored in the soil profile do the crops have a regional chance to mature. Remaining Extent (Portion 0) of Farm 423 is currently used for small livestock grazing. According to the Department of Agriculture, Land Reform and Rural Development (DALRRD) the land falls into Class vii. It is considered as low potential land suitable for livestock and conservation.

The landscape on the eastern side of Farm 423 is almost entirely flat besides one or two areas closer to the farmhouse where the slope gradient changes ever so slightly by a few metres. This area is denoted in the "Lower Plaat Doorns" area of the Council for Geosciences Map 3222 and mainly consists of hard baked Quaternary sands in a long dune cordon that extends north, south and eastwards of this property.

The vegetation has all but completely died off due to an extremely long period of drought in the Beaufort West area (approximately 5 years). We did not see many grazing animals during the survey and even reptiles and small antelope were scarce. A few meerkats and hares were observed as well as birdlife. The ground was easy to cover and visibility was excellent. Naturally occurring hornfels, greywacke and siltstones are abundant and litter the level plain. A high game fence forms the eastern boundary of the property and a few water tanks, mainly abandoned or demolished, were found dotted across the farm.

According to the Cultural Landscape Assessment (2021, Appendix 3), the site is characterised by the following:

- Regional location within the Great Karoo which is a vast arid area with a dispersed pattern of settlement, extensive stock farms, more recent game farms and irrigation based agriculture along the rivers; the vegetation cover is low, consistent with the Nama Karoo Biome.
- Location to the south of the regional centre of Beaufort West which dates to the late 18th century; town is framed by the Nuweveld escarpment to the north, lies between the Gamka and Kuils Rivers (normally dry) and on the outskirts lies the 75 000 hectare Karoo National Park; urban fringe activities to the south-east of the town, namely new cemetery and waste water treatment works.
- Site bordered by the R61.
- No significant landscape or built environment features are located on the site.
- Steenbokkie Private Nature Reserve abuts the study area to the north
- Long views towards the Nuweveld escarpment add scenic value.
- Eskom power lines traverse the site and the Steenbokkie Private Nature Reserve.
- Located within the Beaufort West REDZ and in close proximity to other proposed solar power facilities.

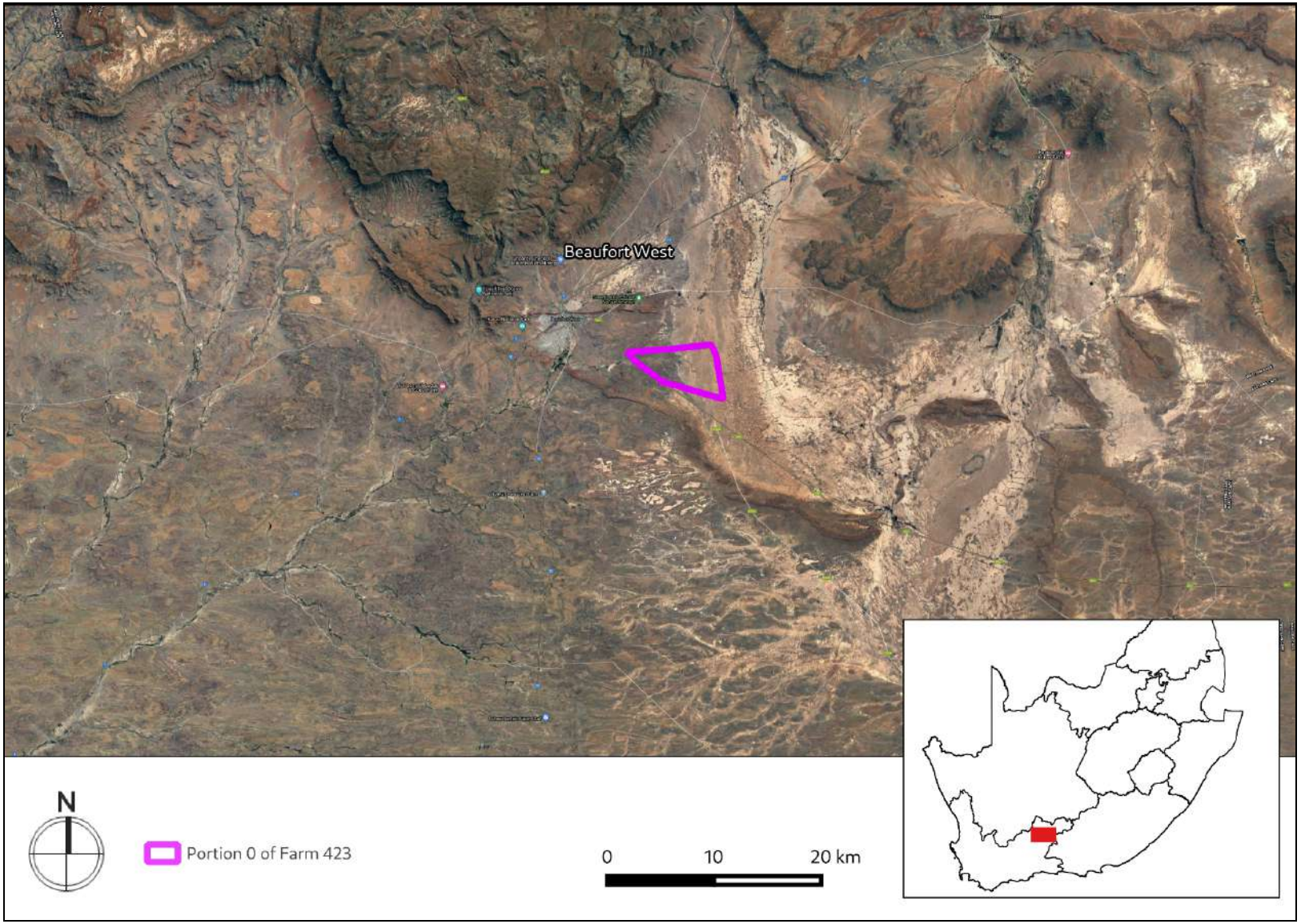

Figure 1.1: Portion 0 of Farm 423 within which the development is proposed

Figure 1.2: The proposed development layout of Hardeveld PV facility in relation to other PV facilities associated with the Bulskop PV cluster (subject to separate HIAs)

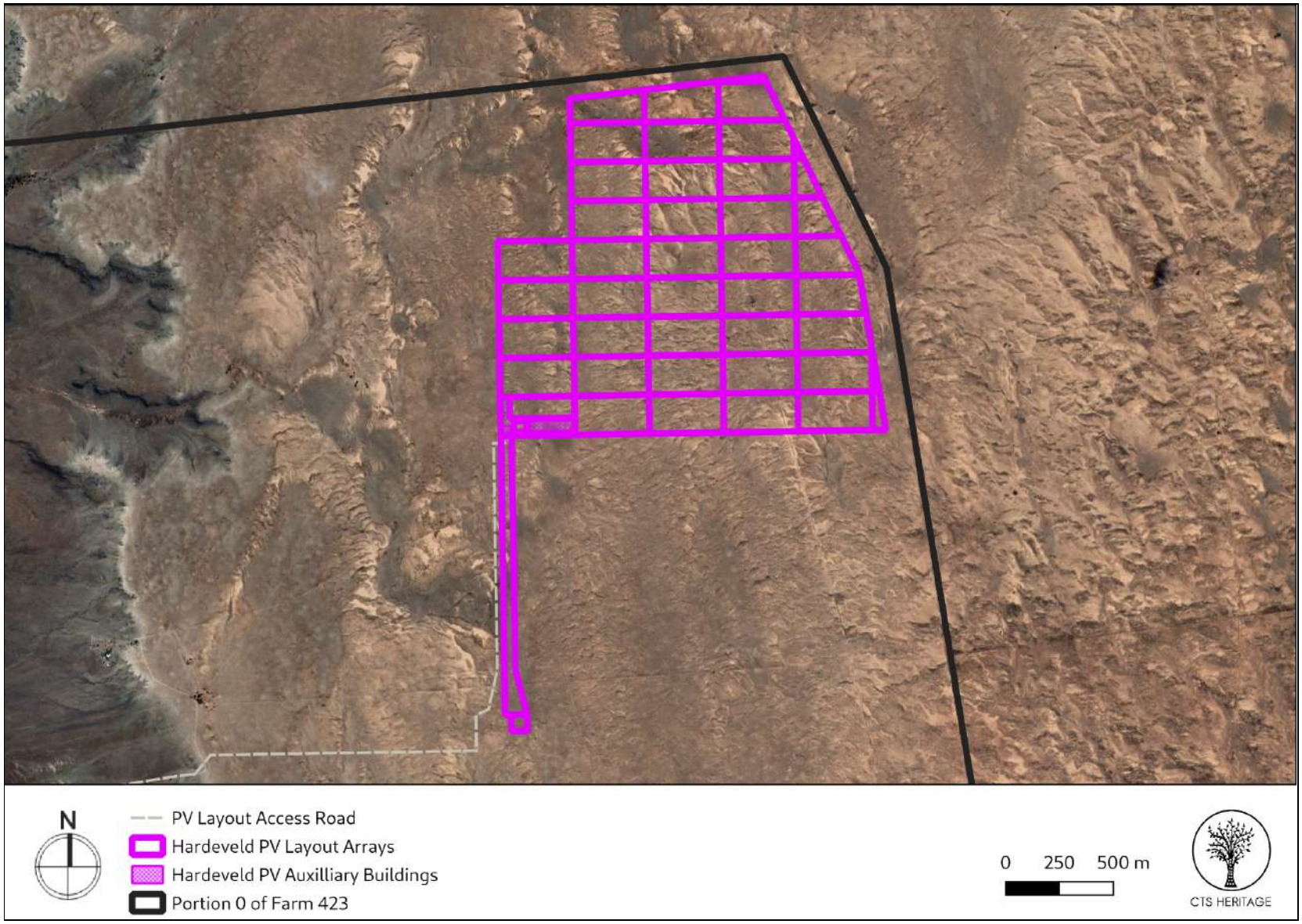

Figure 1.3: The proposed development layout of the Hardeveld PV Facility

2. METHODOLOGY

2.1 Purpose of HIA

The purpose of this Heritage Impact Assessment (HIA) is to satisfy the requirements of section 38(8), and therefore section 38(3) of the National Heritage Resources Act (Act 25 of 1999), as well as Appendix 6 of the EIA Regulations, 2014.

2.2 Summary of steps followed

- A Desktop Study was conducted of relevant reports previously written (please see the reference list for the age and nature of the reports used)
- An archaeologist conducted an assessment of archaeological resources likely to be disturbed by the proposed development. The archaeologist conducted his site visit from 6 to 9 September 2021
- A palaeontologist conducted an assessment of palaeontological resources likely to be disturbed by the proposed development. The archaeologist conducted his site visit from 4 to 5 September 2021
- A cultural landscape assessment was conducted that covers the proposed development area with fieldwork completed on 10 and 11 October 2021 The results of this assessment were incorporated into this HIA.
- The identified resources were assessed to evaluate their heritage significance
- Anticipated impacts to these resources were identified and assessed.
- Alternatives and mitigation options were discussed with the Environmental Assessment Practitioner

2.3 Assumptions and uncertainties

- The *significance* of the sites and artefacts is determined by means of their historical, social, aesthetic, technological and scientific value in relation to their uniqueness, condition of preservation and research potential. It must be kept in mind that the various aspects are not mutually exclusive, and that the evaluation of any site is done with reference to any number of these.

- It should be noted that archaeological and palaeontological deposits often occur below ground level. Should artefacts or skeletal material be revealed at the site during construction, such activities should be halted, and it would be required that the heritage consultants are notified for an investigation and evaluation of the find(s) to take place.

However, despite this, sufficient time and expertise was allocated to provide an accurate assessment of the heritage sensitivity of the area.

2.4 Constraints & Limitations

Although the entire study area (inclusive of the development area) was surveyed, at the time of the survey the final layouts of the solar PV facilities were not yet finalised. However, based on preliminary layout proposals, the ground was intensively surveyed in the eastern section in anticipation of the location of solar PV installations with two long traverses made across the entire length of the study area from east to west.

The prolonged drought in the area has resulted in large areas of denuded vegetation and this greatly contributed to the excellent visibility of Stone Age and historical material scattered on the ground. We were therefore able to achieve a high degree of coverage during the survey which accurately characterises the level of heritage sensitivities encountered in the study area.

The experience of the heritage practitioner, and observations made during the study, allow us to predict with some accuracy the archaeological sensitivity of the receiving environment.

3. HISTORY AND EVOLUTION OF THE SITE AND CONTEXT

3.1 Desktop Assessment

Background:

The area proposed for the Hardeveld PV facility is located approximately 6km south of Beaufort West, east of the R61, and within the identified Beaufort West REDZ. Beaufort West was the first town to be established in the central Karoo.

Archaeology

A number of heritage assessments have been completed within close proximity to the area proposed for development (Figure 2). According to Nilssen (2014, SAHRIS NID 504763), “The Karoo houses a long and rich archaeological record dating from the earliest stages of Stone Age technology that are over a million years old, to the historic period that consists of the last few hundred years of human occupation (see Nilssen 2011 and references therein). Archaeological sites include caves and rock shelters, open air artefact scatters, rock engravings and historic structures with their associated cultural materials.” According to ACO (2013, SAHRIS NID 503074), “Because of the scarcity of caves and shelters, more than 90% of Karoo archaeological sites are open sites of stone artefacts, ostrich eggshell fragments and occasionally, pottery. Bone remains are rarely preserved.

Artefacts of both the Early and Middle Stone Age are widespread and may generally be described as an ancient litter that occurs at a low frequency across the landscape. Where definable scatters of Early and Middle Stone Age material occur, they are considered to be significant heritage sites. More intensive occupation of the Karoo started around 13 000 years ago during the Later Stone Age, which is essentially the heritage of Khoisan groups

who lived throughout the region. The legacy of the San includes numerous open sites while traces of their presence can also be found in most large rock shelters, often in the form of rock art. They frequently settled a short distance from permanent water sources (springs or waterholes) and made use of natural shelters such as rock outcrops or large boulders or even large bushes. In the Great Karoo natural elevated features such as dolerite dykes and ridges played a significant role in San settlement patterns."

Palaeontology

According to the SAHRIS Palaeosensitivity Map (Figure 4a), the area proposed for development is underlain by sediments of very high paleontological sensitivity. According to the extract from the Council for GeoSciences Map 3222 for Beaufort West, the development area is underlain by the Abrahamskraal and Teekloof Formations, both of the Adelaide Subgroup of the Beaufort Group of sediments. According to the SAHRIS Fossil Heritage Browser and the Palaeotechnic Report for the Western Cape (Almond and Pether, 2008), the Beaufort Group sediments are known to preserve diverse terrestrial and freshwater tetrapods of *Tapinocephalus* to *Lystrosaurus* Biozones (amphibians, true reptiles, synapsids – especially therapsids), palaeoniscoid fish, freshwater bivalves, trace fossils (including tetrapod trackways) and sparse vascular plants (*Glossopteris* Flora, including petrified wood). According to a map included in Almond (2011, SAHRIS NID 503273), the area proposed for development is located within the Pristerognathus Assemblage Zone of the Beaufort Group and a number of significant fossils have been identified in the immediate context of the proposed development in the academic literature (Figure 4c, Appendix 2). Based on the known paleontological sensitivity of this area, it is very likely that activities associated with the development of the proposed grid connection will negatively impact on significant fossil heritage.

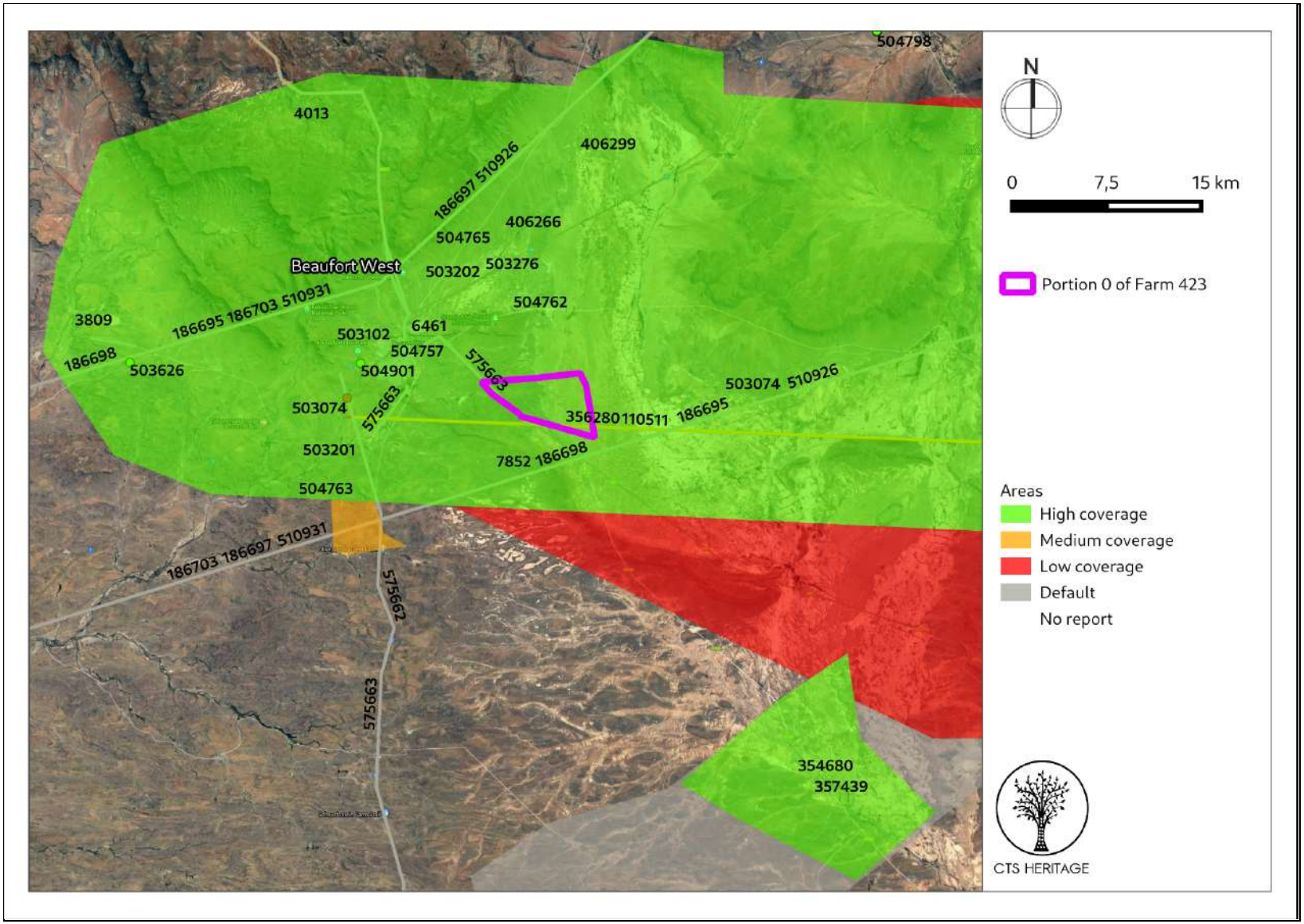

Figure 2: Spatialisation of heritage assessments conducted in proximity to the proposed development

Historic settlement and the Cultural Landscape (Winter et al. 2021)

The name 'Karoo' has its roots in the Khoisan word meaning 'place of great dryness'. It once supported large grassy flatlands and the San and Khoekhoen migrated across the region for hunting and gazing purposes. Less than two hundred years ago large herds of antelope still roamed the grass plains. With the occupation of the area by stock farmers the sheep gradually replaced the game and the grass receded along with changing grazing and weather patterns (Winter et al 2009; Winter & Oberholzer 2013). By the late 17th century, the Khoenhoen had moved from the region into the more water-rich southern Karoo and the coastal plains. During the early colonial period, the harshness of the Karoo region formed an almost impenetrable barrier from the Cape to the interior for colonial explorers, hunters and travellers. The 18th century was characterized by a marked increase in the rate of expansion of the boundaries of the settlement at the Cape. This was associated with the emergence of the migrant stock farmer (trekboer) (Guelke 1982 In Winter et al 2009). Early routes into the interior largely followed the tracks initially used by migrating herds of game or the cattle herds and sheep flocks of the Khoekhoen on their seasonal route between coastal and inland grazing grounds. These routes were later reinforced by generations of trek farmers moving between the markets at the Cape and their farms (Winter et al 2009).

Permanent settlement of the region only really occurred in the 19th century with towns being established near permanent water sources. It was during this period that Beaufort West was established as a drostdy in 1818 on the farm Hooyvlakte. In the same year, a mission station was established at Kookfontein, just outside Beaufort West (Winter et al 2009) but was disbanded within three years. With the occupation of the area by stock farmers, sheep replaced game, the grass receded, and farmers became suppliers of fresh meat to the refreshment station in place of Khoe (Guelke 1982 In Winter et al 2009). Expansion was fiercely opposed by the San, who resisted alienation from water sources until forcibly suppressed by the 1790s. Other new arrivals to the Central Karoo include Xhosa, alienated from their grazing lands in the eastern Cape (Anderson 1985).

British colonial rule from 1806 brought a new land ownership policy that transferred loan farms to perpetual quitrent. This imposed "settled agriculture", unsustainable without large land parcels and sure access to water, which further dispossessed Khoe, Xhosa and many of the poorer trekboers unable to fit the legal system. They were pushed beyond the escarpment or subjugated to a life of labour, and were replaced by wealthy farming burghers, merchants and officials (Anderson 1985, Guelke Shell 1992).

Beaufort West became the first municipality in South Africa on 3 February 1837 and had the country's first town hall. When the railroad reached the town in 1880 it became a marshalling yard and locomotive depot and today it is the largest town in the Karoo. A number of the significant heritage resources located in close proximity to the proposed development are located within Beaufort West and are associated with the early colonial history of the town (Figure 3a and Appendix 1).

The proposed development is located only 10km to 15km from the N1 and almost immediately adjacent to the R61 which is identified as a secondary scenic route in the Western Cape PSDF (2014). Furthermore, the proposed development is located within a scenic corridor on the approach to Beaufort West from Cape Town within an area that has limited topography (Figure 4).

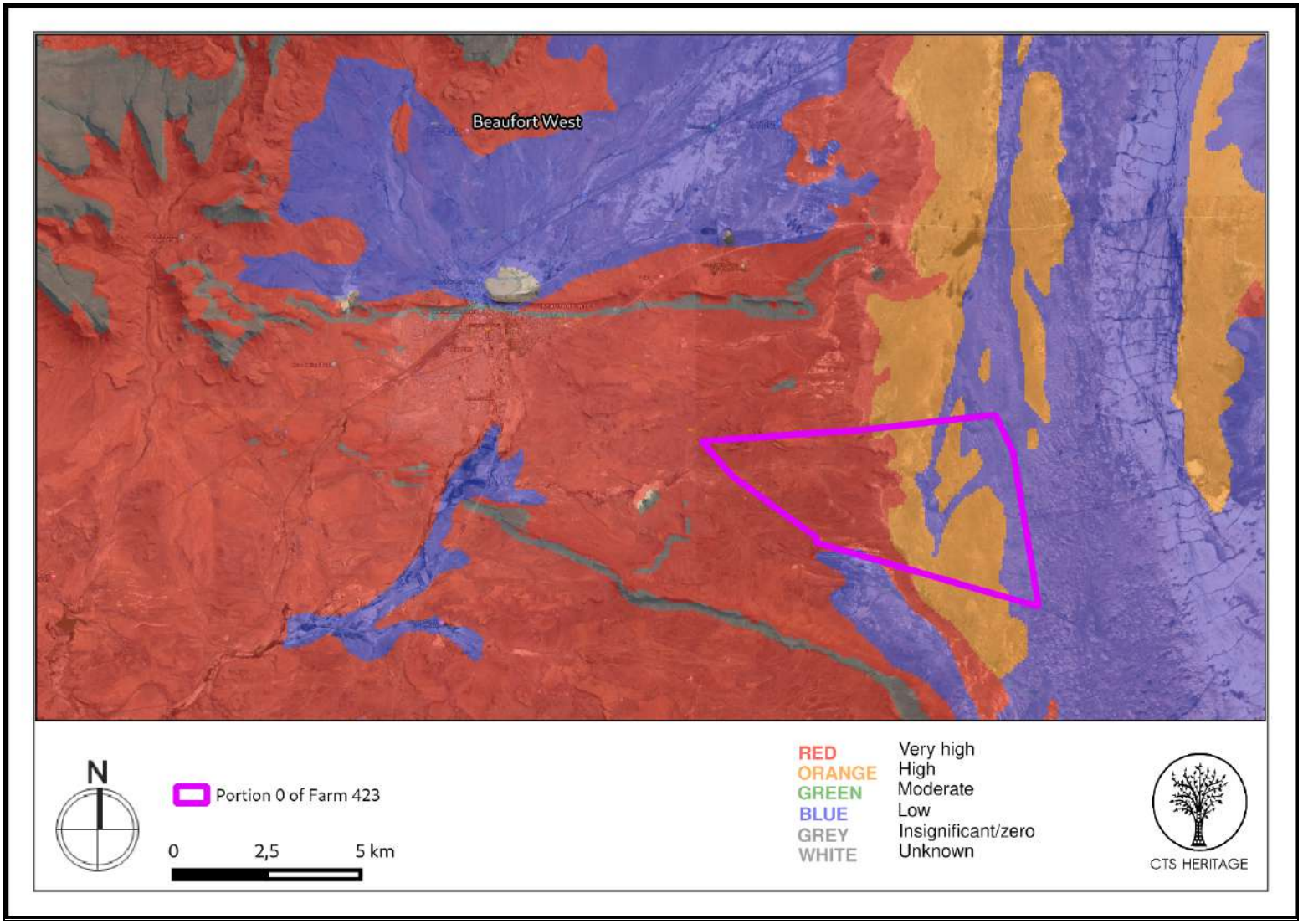

Figure 3.1: Palaeontological sensitivity of the proposed development area

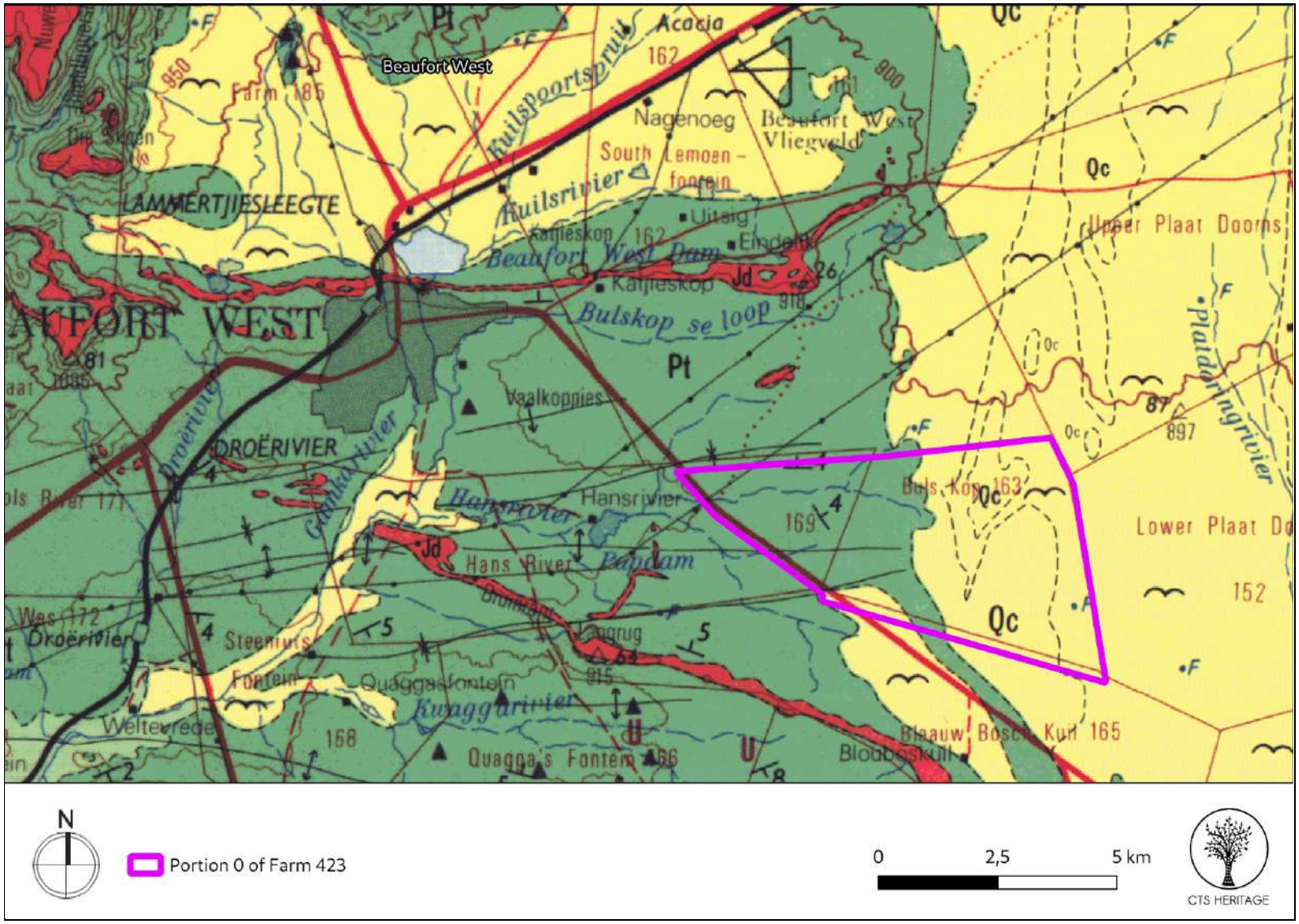

Figure 3.2: Geology Map. Extracted from the Council for GeoSciences Map 3222 for Beaufort West indicating that the development area is underlain by Pa: Abrahamskraal Formation and Pt: Teekloof Formation, both of the Adelaide Subgroup of the Beaufort Group of sediments

Table 2: Explanation of symbols for the geological map and approximate ages

Symbol	Group/Formation	Description
Pt	Teekloof Formation, mainly Poortjie Member	The age of the upper Poortjie beds as determined from volcanogenic tuff marker beds is *c.* 260 – 258 Ma (*i.e.* latest Capitanian to earliest Wuchiapingian), spanning the key stratigraphic boundary between the Middle and Late Permian Period (Day & Smith 2020). The sedimentology of the Abrahamskraal – Teekloof transition has been addressed recently by Paiva (2015)
Jd	Karoo Dolerite Suite	The prominent-weathering dyke ridge, with a steeper SW scarp and gentler NE slopes mantled by doleritic colluvial gravels, stands out clearly as a rusty-brown strip on satellite images and is associated with local baking of the country rocks to pale quartzite and darker hornfels
Qc	Late caenozoic calcrete and alluvium	Sandstone gravels here are ultimately derived from a broad belt of coarse alluvial deposits related to ancient Caenozoic drainage systems draining the Great Escarpment, as reflected in the deep notch in the Escarpment due north of the site and the relict Platdoringrivier drainage line further to the east.

4. IDENTIFICATION OF HERITAGE RESOURCES

4.1 Summary of findings of Specialist Reports

Cultural Landscape and the Built Environment (Winter et al. 2021, Appendix 3)

Cultural landscape assessments typically require assessments at various scales including regional, site and individual elements scales. The context of this particular study area is different in that there are very few features or structuring elements that create variations across the landscape.

As a general statement the landscape of the study area is an open, barren, featureless and homogenous landscape with little variation in topography, land use and vegetation. It compromises very few productive elements in terms of agriculture and built form. The only distinctive features are long distance views towards the Nuweveld escarpment to the north. The primary structuring element at the broader landscape scale is the escarpment immediately to the north above the N1. Embedded within this landscape is the Karoo National Park and historic/scenic routes and passes. The secondary structuring element is the route network and settlement pattern centred on Beaufort West which is at the confluence of the N1, N12 and R61.

The R61 borders the site to the west. The R61 could be considered to have some significance as an important linkage route and in traversing a representative karoo landscape of what is colloquially known as 'Die Vlakte' – a vast, open, flat landscape with a dispersed pattern of settlement. This landscape does not constitute a heritage resource from a cultural landscape perspective and the R61 does not warrant scenic drive status. There are no landscape and built features worthy of formal protection from a cultural landscape perspective. There are a series of koppies located immediately to the east of the R61 which provide a degree of visual interest. The proposed PV facility is located beyond these koppies at a lower level on a flat, featureless, sandy plain which provides a degree of visual screening.

The Steenbokkie Private Nature Reserve is located immediately to the north of the site but does not constitute a heritage resource from a cultural landscape perspective with power lines running through the landscape. The site is located some 10km away from the historic core of Beaufort West but bares no visual-spatial relationship. The site is separated from the town by an existing infrastructural corridor and urban fringe activities located immediately to the south-east of Beaufort West.

In summary, the site cannot be regarded as a cultural landscape worthy of formal protection.

No structures were identified within the development footprint. The nearest known structure is the Hansrivier farmhouse complex (BLK055) (approximately 9 km to the west of the development footprint) which is currently abandoned and consists of the main farmhouse, painted yellow with a green corrugated roof and outbuildings as

well as vandalised/ruined labourers cottages (see Table 2). The farm was recently advertised for tourism proposals through a tender on the Beaufort West Municipality's website. Most of the buildings seen at the farms incorporated in the study area are modern and are not older than 60 years. This structure is located some distance from the proposed development and no impact is anticipated (see Figure 7 in the Archaeology Impact Assessment, Appendix 1).

Archaeology (Appendix 1)

Middle Stone Age artefacts are dominant with a smaller amount of Later Stone Age material. The MSA artefacts also appeared to hold two different subsets - an early MSA, or possibly a late ESA assemblage and a typical later MSA assemblage likely dating to the last 100 000 years. The artefacts were found on the surface in deflated areas and it is difficult to determine the date range purely based on the typology of the material found, however, further studies may find a continuous occupation record throughout the MSA.

The artefactual material was rarely retouched and volumes at each assessed location were low as no significant source outcrops of raw stone materials were found. It appears that hunter-gatherers moved through this part of the landscape, sampling the smaller cobbles and leaving a couple of struck flakes at a time over a widely dispersed area which can be attributed to the long period over which this pattern of behaviour took place. Higher concentrations of material will no doubt be found closer to the main water sources and natural shelters formed in kloofs surrounding the area. Most of the cobbles were extremely weathered, patinated by desert varnish and submersion in mud and dust over millennia. 79 locations spread across the study area were assessed with most (75) holding MSA or LSA open-site materials dominated by greywacke, siltstones and hornfels. Besides various small farm dams and windmills spread evenly throughout the farms, historical layering is concentrated at the Hansrivier farmhouse complex which is situated approximately 9 km to the west of the development footprint.

When moving closer to the river courses, thicker fluvial sands seemed to obscure the amount of artefacts seen and it is likely that previous flooding events have shifted the position of MSA material in these areas. Artefact visibility increased as one moved about 100-200m away from the river courses. Small dolerite outcrops east of the Hansrivier farm dam were also assessed but no engravings were found. The proposed Hardeveld PV site is not located in proximity to any dolerite outcrops or river courses.

Palaeontology (Appendix 2)

The development footprint is situated on the margins of the Aberdeen Vlaktes, an ancient land surface of possible Miocene age. The Lower Beaufort Group (Permian) bedrocks here are entirely covered by a thick calcrete hardpan and reworked sandy to gravelly alluvial deposits of low palaeosensitivity.

The provisional palaeosensitivity mapping for the Bulskop PV Cluster, based on the DFFE Screening Tool and SAHRIS website, is *contested* in the palaeontological report. Potentially-fossiliferous Lower Beaufort Group sediments are not exposed in the PV cluster project area while the surface cover of Late Caenozoic calcretes, surface gravels and finer-grained soils are generally of low palaeosensitivity in the Great Karoo region. An overall LOW palaeosensitivity for the combined PV cluster areas is inferred here, although the potential for isolated vertebrate fossil finds of high scientific interest – as recorded elsewhere in the Beaufort West region - cannot be completely discounted.

4.2 Heritage Resources identified

The Cultural Landscape Assessment identified low levels of significance of the study area and its landscape context. Only one aspect of the broader study area was identified to have some cultural significance - it was noted that the R61 could be considered as an important linkage route and in traversing a representative karoo landscape of what is colloquially known as 'Die Vlakte' The proposed development of the Hardeveld PV Facility may negatively impact on how this linkage route is experienced (Figure 4). While considered a heritage resource, the Karoo National Park is located sufficiently far from the proposed development to warrant no further analysis in this assessment.

There are two broad heritage related indicators that have been identified in the Cultural Landscape Assessment in terms of the siting and layout of the PV cluster that would mitigate negative impact to the cultural landscape significance of the study area and its landscape context:

- The siting of the PV facility to be set back from the R61 by a minimum of 800m and to make use of the slight change in topography to the east as the preferred location for the facility. This area is referred to as the 'sand pan area' on the cultural landscape elements diagram.
- To avoid slightly elevated topographical features within the scenic corridor of the R61.

The significant heritage resources identified in the archaeology field assessment are detailed in Table 3. Only one heritage resource (BLK030) of significance was identified approximately 2.5 km to the south west of the Hardeveld PV development area during the field assessments conducted for the proposed PV facility. The remaining heritage resources were determined to be Not Conservation-Worthy and are discussed in more detail in Appendix 1 (Archaeology Impact Assessment).

A very sparse scatter of fossil sites of the Middle to Late Permian *Endothiodon* Assemblage Zone was recorded from the Lower Beaufort Group (Permian) bedrocks located in the broader study area during the site visit, comprising a few small dicynodont skulls within calcrete concretions weathering out from overbank mudrock facies, occasional robust fragments of rolled bone among ferruginous carbonate surface gravels and low

diversity invertebrate trace fossil assemblages within channel sandstones. The only fossils recorded within the Late Caenozoic alluvial deposits are occasional calcretised termaria of possible Pleistocene or Holocene age. The Palaeozoic and Caenozoic fossil sites all lie approximately 1.5 km west of development area (See satellite map A1 in Appendix 1 of the PIA), most are of modest scientific or conservation value and no mitigation in their regard is recommended here (Table 4).

All the heritage resources identified and mentioned above are mapped relative to the proposed development footprint in section 4.3 below.

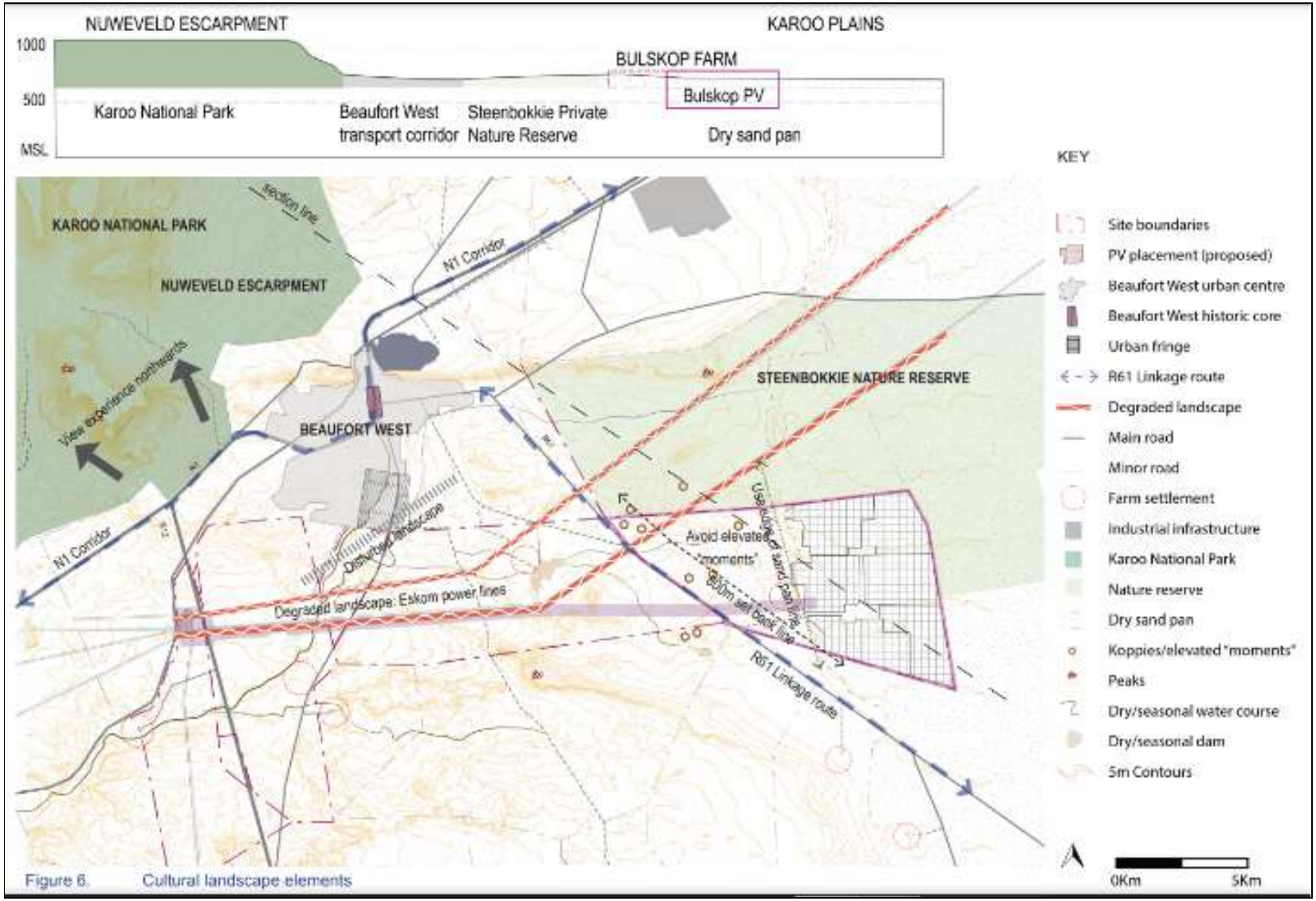

Figure 4: Cultural Landscape Elements Map from Winter et al. 2021 (Appendix 3)

Table 3: Artefacts identified during the field assessment development area

POINT ID	Site Name	Period	Description	Co-ordinates		Grading	Mitigation
BLK 030	Bulskop 030	MSA	Open site with mixed raw materials, flakes, cores, siltstone, hornfels. Floodplain, vegetation slightly better condition here due to groundwater	-32.40809	22.69982	IIIC	None required
BLK 055	Bulskop 055	Modern, Historic	Hansrivier farmhouse complex. Currently abandoned – consists of main farmhouse painted yellow with green corrugated roof and outbuildings as well as vandalised/ruined labourers cottages.	-32.39148	22.62556	IIIC	50m Buffer

Figure 5. Observation BLK030 (Grade IIIC)

Table 4: Palaeontological observations made during the field assessment for the proposed PV Facility

POINT ID	Site Name	Description	Co-ordinates		Grading	Mitigation
PAL_BLK 001	Palaeo Bulskop 001	Remaining Extent of Farm 423. Lower Beaufort Group ripple cross-laminated channel sandstones with small scale invertebrate burrows (Scoyenia ichnofacies), perhaps accompanied by reedy plant stem casts. Proposed Field Rating IIIC Local Resource. No mitigation necessary since fossil site lies outside project footprint.	-32.39218611	22.697825	IIIC	None

4.3 Mapping and spatialisation of heritage resources

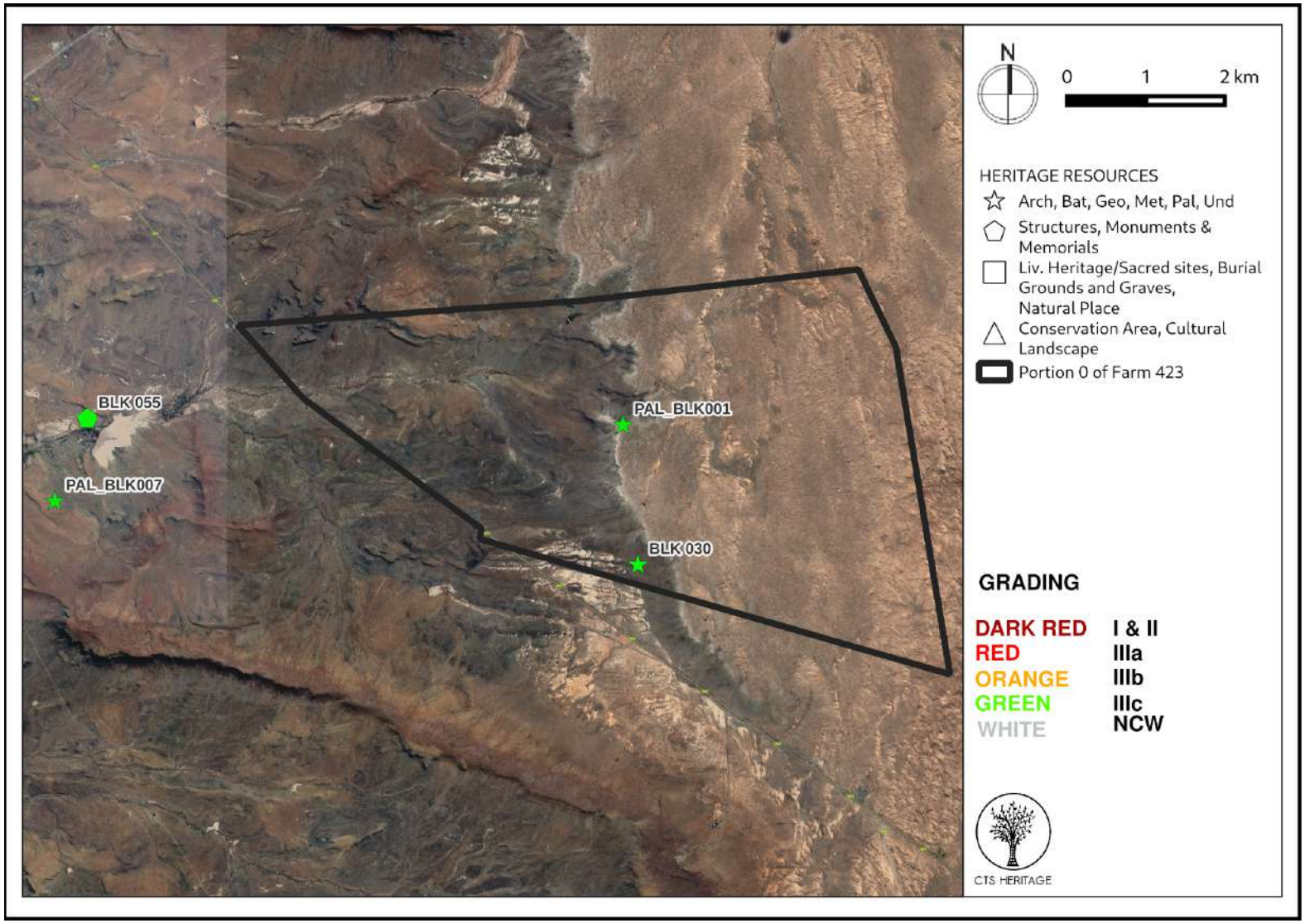

Figure 6.1: Map of significant heritage resources relative to the broader proposed development area

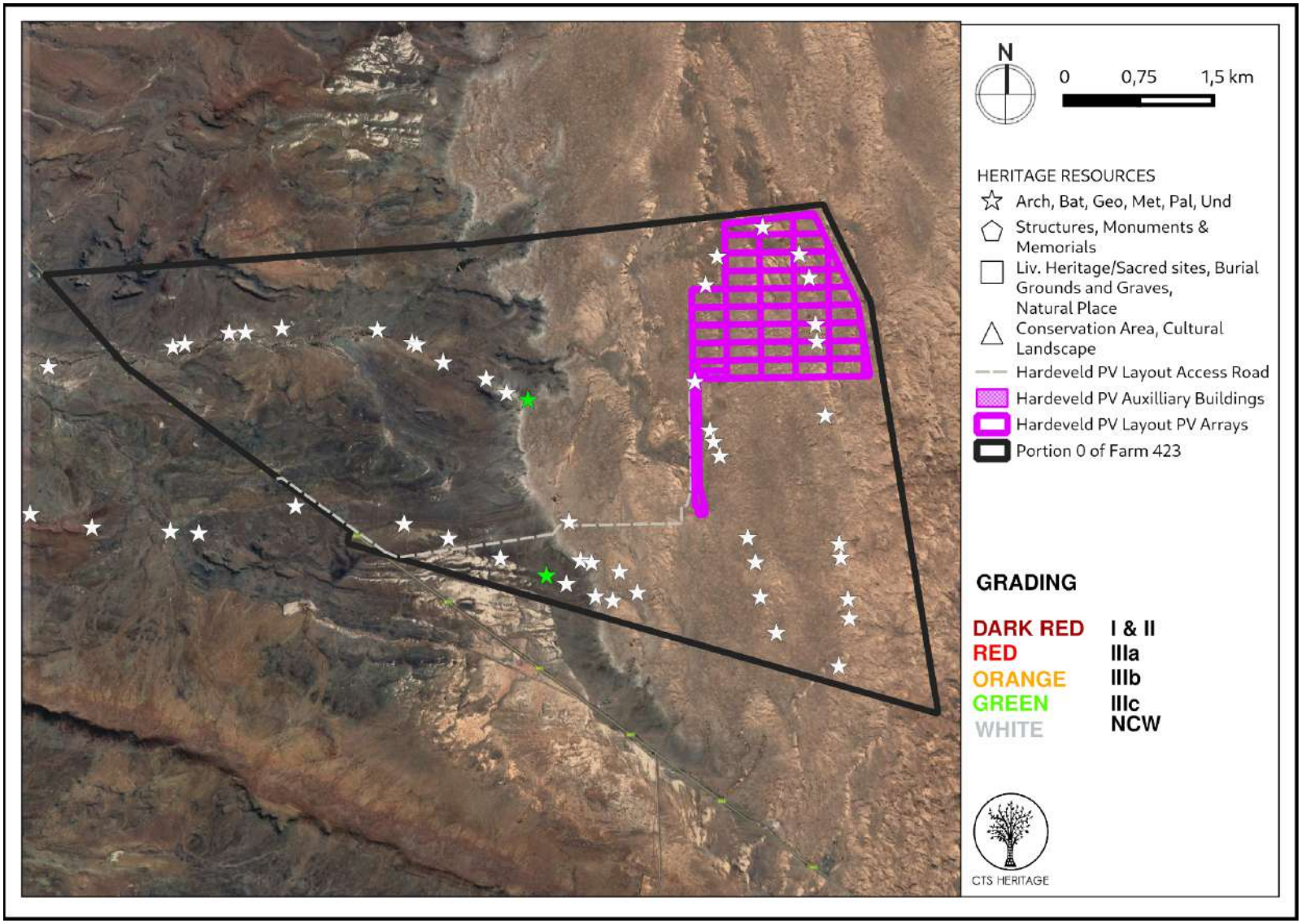

Figure 6.2: Map of heritage resources within the proposed development area

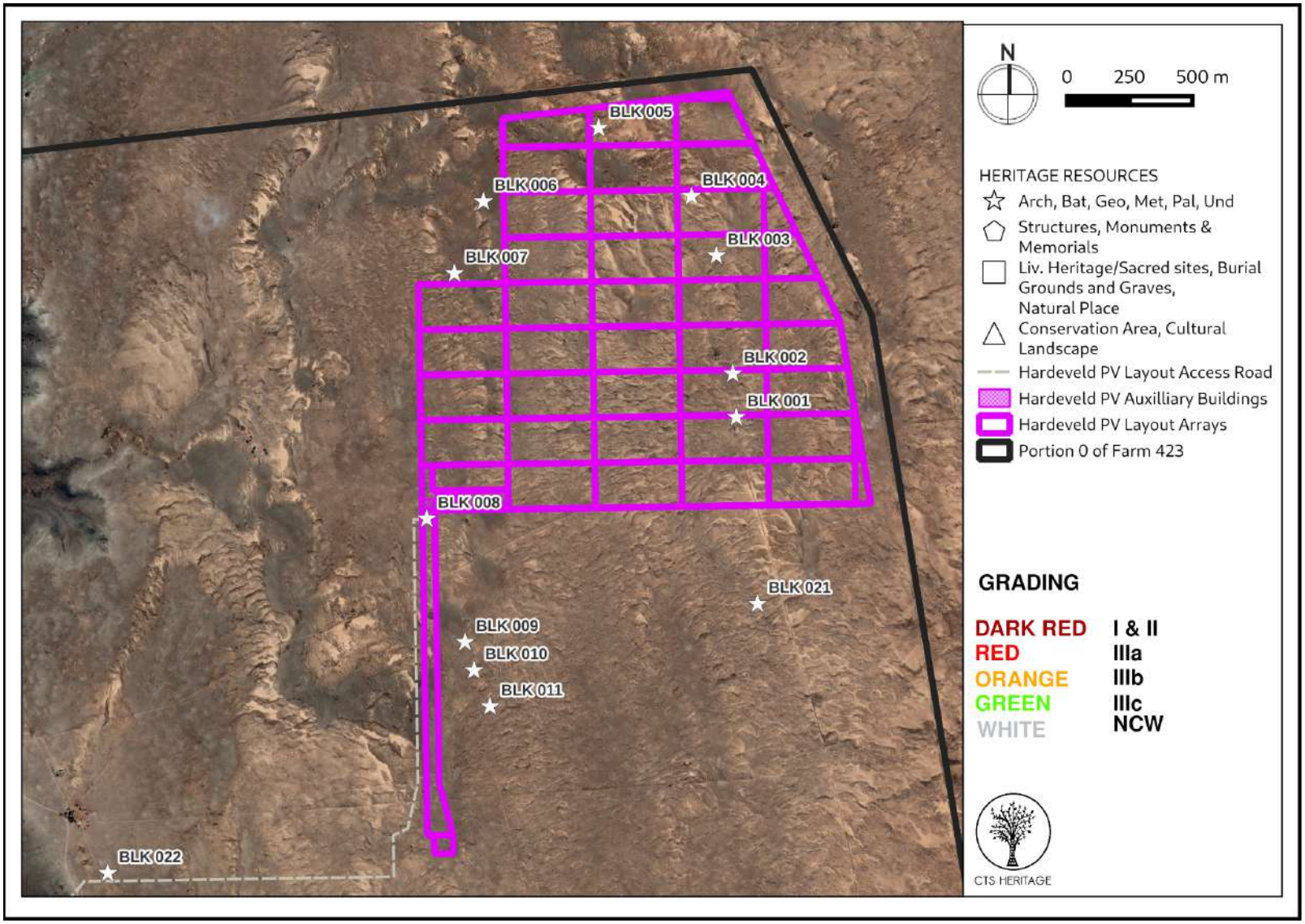

Figure 6.3: Map of heritage resources within the proposed development area

5. ASSESSMENT OF THE IMPACT OF THE DEVELOPMENT

5.1 Assessment of impact to Heritage Resources

Cultural Landscape

The Cultural Landscape Assessment identified the R61 as having some cultural value as a linking route through the flat Karoo landscape. The proposed location of the development footprint complies with the broad heritage indicators outlined in Section 4.2 (and repeated below) in terms of mitigating potential negative impacts:

- The PV facility is located ~3.6 km to the east of the R61 at the nearest point and is located within a 'sand pan area' where a slight change in topography will provide visual screening.
- The project will have minimal impact on the Karoo National Park and associated escarpment due to distance, the location of the Beaufort West in between the project and Park and the existing infrastructural corridor as a dominant visual component in this immediate landscape.

No negative impact to any cultural landscape resources of heritage value are anticipated and no mitigation measures are recommended from a cultural landscape perspective given the low heritage significance of the landscape directly affected by the project and the low impact on the broader landscape context.

Archaeology

The proposed development will not have a negative impact on the heritage resources identified within the proposed development area for the PV facility. The majority of the lithic material identified is of low significance (not conservation-worthy), and even though the resources may be destroyed during construction, the impact is insignificant.

No mitigation is required for archaeological material recorded in the footprint areas of the proposed development. Despite the very high numbers of observations made, the archaeological material is ubiquitous across the entire area and in general, the results of this assessment indicate that the archaeological sensitivity of the development area is low.

Only one archaeological resource of contextual significance was identified (BLK030). This site has been sufficiently recorded and no further mitigation is recommended. Furthermore, based on the available layout, no impact to this site is anticipated as it is located well away from the Hardeveld PV development footprint.

Palaeontology

Lower Beaufort Group sedimentary bedrocks are not exposed at all within the project areas for the PV facilities due to the thick capping of Late Caenozoic calcrete and overlying sandy to gravelly deposits associated with the ancient (possibly Miocene) land surface of the Aberdeen *Vlaktes*. No fossils of any sort- including the most likely candidates, blocks or resistant-weathering silicified wood reworked into surface gravels - were recorded within the PV footprint. Vertical sections through the calcrete hard pan along the escarpment edge to the west of the PV project area also yielded no fossil remains. Fossils which might be anticipated here include calcretised termitaria, rhizoliths (plant root casts) and gastropod shells. Cross-bedded Lower Beaufort Group channel sandstone exposed intermittently along the escarpment edge contain low-diversity trace fossil assemblages (horizontal and oblique burrows) of the *Scoyenia* Ichnofacies – possibly attributable to burrowing insects in damp substrates – and possible vertical casts of reedy plant stems (unconfirmed). None of these fossils are of high scientific or conservation value (Proposed Field Rating IIIC Local Resource) and the known fossil site lies just outside the project area so no mitigation is required here.

It is concluded that the Hardeveld PV facility is of LOW palaeosensitivity and no impact to significant palaeontological heritage resources is anticipated. There are no fatal flaws or objections to authorisation of the proposed projects on palaeontological heritage grounds. No further specialist palaeontological studies or mitigation are recommended for these renewable energy projects. The Chance Fossil Finds Protocol appended to this report should be included in the EMPr for the developments.

5.2 Sustainable Social and Economic Benefit

According to the developer, the anticipated sustainable socio-economic benefits to be derived from the proposed development of the PV facilities include:

- Creation of employment and business opportunities, and the opportunity for skills development and on-site training.
- The establishment of infrastructure to generate renewable energy;
- Creation of employment and business opportunities. The operational phase will also create opportunities for skills development and training;
- Benefits associated with the establishment of a Community Trust; and
- Generation of income for affected landowner/s.

Based on the outcome of this assessment, the proposed development is not anticipated to have a significant negative impact on heritage resources and as such, the anticipated socio-economic benefits to be derived from this project outweigh the anticipated negative impacts to heritage resources.

5.3 Proposed development alternatives

At this stage there are no site alternatives or technology alternatives that were considered, The siting of the initial facilities within the broader development area considered various critical criteria including the sensitivity of the broader site in order to inform the positioning of these facilities as well as provincial and local planning in terms of renewable energy development.

The areas within which these authorised facilities are planned do not infringe on any identified areas of high sensitivity. In addition, the broader site is located within the identified Solar Development Corridor as defined by the PSDF, as well as within a proposed REDZ for solar development. The siting of these facilities is considered to be acceptable from an environmental perspective.

5.4 Cumulative Impacts

At this stage, there is the potential for the cumulative impact of proposed renewable energy facilities to negatively impact the cultural landscape due to a change in the landscape character from natural wilderness to semi-industrial. Based on the available information, a number of renewable energy facilities have been approved in the immediate vicinity of the proposed development, as well as presently proposed for this immediate environment.

While the cumulative impacts to heritage resources associated with this proposed development are predominantly visual and we therefore refer to the findings of the VIA for cumulative impacts:
“Negative cumulative effects are mainly related to the degradation of the surrounding landscapes due to higher visual contrast generated by structural intrusion and visual massing where large areas of PV panels are viewed and where multiple PV projects with their semi-industrial landscape character are visible from a single location. In these instances, the sense of place in the landscape can be dominating, degrading the surrounding visual resources. If these visual resources are utilised for eco-tourism activities, land use conflict can occur.

Within the proposed project zone of visual influence, the landscape character is mainly dominated by flat rural agricultural landscape with limited visual resources. The Cumulative visual risk to scenic resources was rated medium negative with little opportunity for mitigation. The combined views of the multiple solar facilities, once constructed, are likely to create a strong, local visual massing effect within the agriculturally zoned area. However, site visual resources are low and with the proposed site located on low lying ground, the zone of visual influence will be contained by some elevated terrain to the north. The project is located within the REDZ11 area, where renewable energy projects of scale would be acceptable. With successful rehabilitation of the area back to an agricultural land use on closure, the cumulative visual risk could be reduced to negligible in the long term.” It is noted that it is preferable to have renewable energy facility development focussed in an area such as a REDZ.

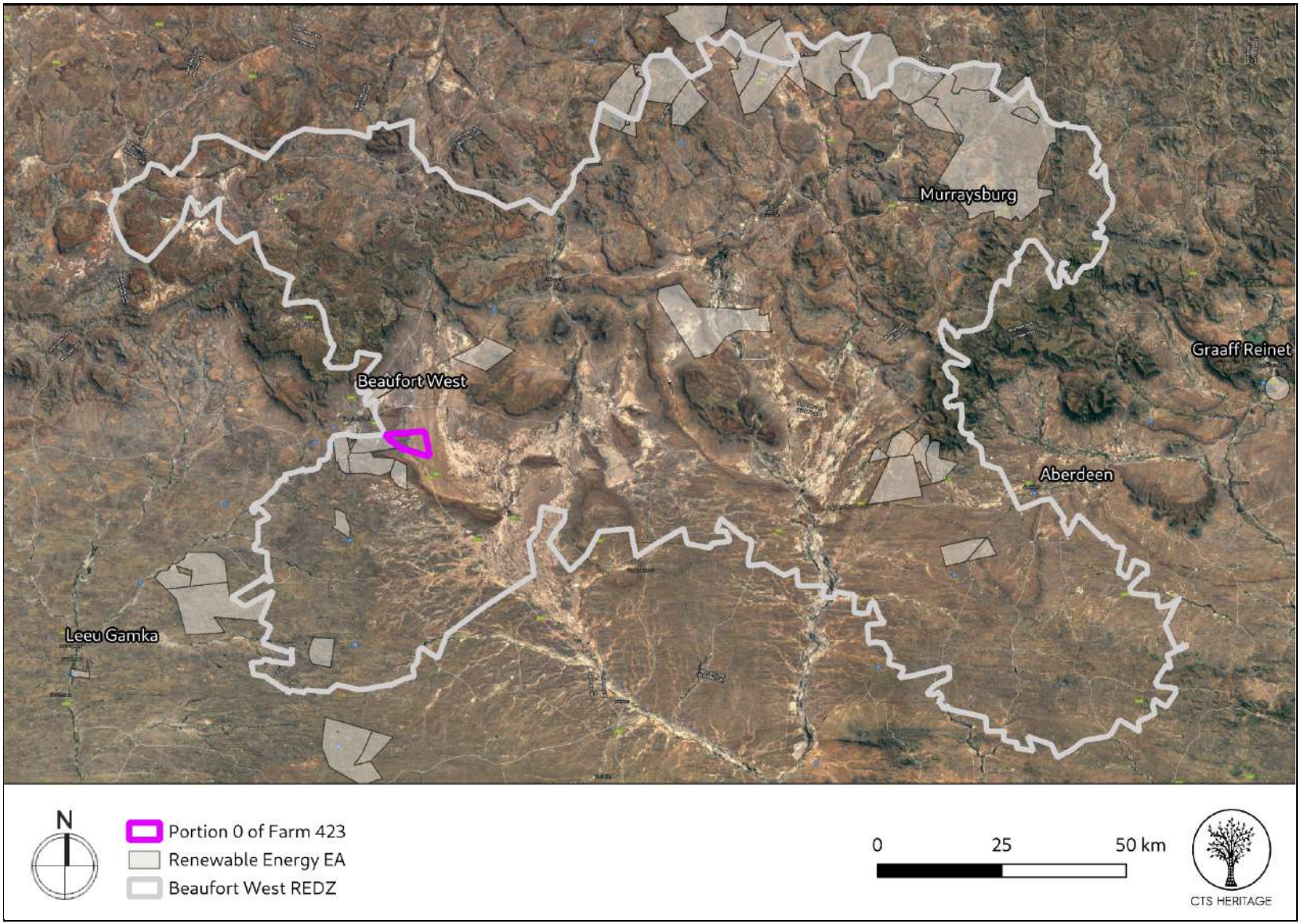

Figure 7: Approved REF projects within 50km of the proposed development area

6. RESULTS OF PUBLIC CONSULTATION

There is one Heritage Conservation Body registered on the HWC database for the area proposed for development - Simon van der Stel Foundation, Southern Cape. As such, in terms of the HWC Guidelines for Heritage Impact Assessments which apply to this application, the relevant Local Authorities - Beaufort West in the Western Cape - and the Simon van der Stel Foundation are provided with 30 days in which to comment on the DRAFT HIA. Evidence of this consultation is provided in Appendix 5.

As this application is made in terms of NEMA, the public consultation on the HIA will take place with the broader public consultation process required for the Basic Assessment process and will be managed by the lead environmental consultants on the project.

7. CONCLUSION

The findings of this assessment largely correlate with the findings of other assessments completed in the vicinity such as the findings of the ACO (2013, SAHRIS NID 503074) who note that “Because of the scarcity of caves and shelters, more than 90% of Karoo archaeological sites are open sites of stone artefacts, ostrich eggshell fragments and occasionally, pottery. Bone remains are rarely preserved. Artefacts of both the Early and Middle Stone Age are widespread and may generally be described as an ancient litter that occurs at a low frequency across the landscape.” This same archaeological signature has been identified within the development footprint.

It is noted that high numbers of quarried stone artefacts predominantly from the Middle Stone Age period were found on this property which is consistent with observations on neighbouring farms through impact assessments and research surveys. These artefacts are particularly visible in deflated open sites where the top soil has washed away onto a harder gravel surface. No shelters were found on the property and no rock paintings, graves or engravings were located.

Given the very sparse occurrence of recorded fossils in the region, and their unpredictable occurrence, it is concluded that the Hardeveld PV facility is of LOW palaeosensitivity. No further specialist palaeontological studies or mitigation are recommended for this electrical infrastructure project. The Chance Fossil Finds Protocol appended to this report should be included in the EMPr for the developments.

No mitigation measures are recommended from a cultural landscape perspective given the low heritage significance of the landscape directly affected by the project and the low impact on the broader landscape context.

Based on the assessments completed, few sensitive heritage resources of low local cultural value have been identified in close proximity to the proposed development footprint. These include the R61, the Hansrivier Farmhouse Complex, an MSA artefact scatter and a small fossil exposure.

No impact to these resources is anticipated from the proposed development of the Hardeveld PV Facility. As such, the proposed development is acceptable from a heritage perspective and there is no objection to its authorisation from a heritage perspective.

8. RECOMMENDATIONS

Based on the outcomes of this report, it is not anticipated that the proposed development of the Hardeveld PV facility will negatively impact on significant heritage resources. The following recommendations are made:

- The HWC Chance Fossil Finds Procedure must be implemented for the duration of construction activities
- Although all possible care has been taken to identify sites of cultural importance during the investigation of the study area, it is always possible that hidden or subsurface sites could be overlooked during the assessment. 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, burials or other categories of heritage resources are found during the proposed development, work must cease in the vicinity of the find and HWC must be alerted immediately to determine an appropriate way forward.
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9. REFERENCES

Heritage Impact Assessments				
Nid	**Report Type**	**Author/s**	**Date**	**Title**
3809	AIA Phase 1	Cobus Dreyer	29/09/2005	Archaeological and Historical Investigation of the Proposed Residential Developments at the Farms Grootfontein 180 & Bushmanskop 302, Beaufort West, South-Western Cape
4013	AIA Phase 1	Jonathan Kaplan	01/02/2006	Phase 1 Archaeological Impact Assessment Proposed Klavervlei Powerline Karoo National Park
4153	AIA Phase 1	Hilary Deacon	27/06/2005	Central Karoo District Municipality Borrow Pit Archaeological Impact Assessment Report: Existing Borrow Pit on DR 2308 Km 59 L (Dam), Farm Grootfontein 180
6461	AIA Phase 1	Jonathan Kaplan	01/02/2008	Phase 1 Archaeological Impact Assessment: Proposed Development Remainder of Farm 185 (Now Called Plot 8419) Beaufort West, Western Cape Province
7852	AIA Phase 1	J Kinahan	03/10/2008	Archaeological Baseline Survey of the Proposed Ryst Kuil Uranium Project
354680	HIA Phase 1	Lita Webley, David Halkett	30/11/2015	Heritage Impact Assessment: Proposed Uranium Mining and Associated infrastructure on portions of the farm Quaggasfontein and Ryst Kuil near Beaufort West in the Western Cape and De Pannen near Aberdeen in the Eastern Cape
354681	AIA Phase 1	Lita Webley	30/11/2015	Archaeological Impact Assessment: Proposed uranium mining and associated infrastructure on portions of the farms Quaggasfontein and Ryst Kuil near Beaufort West in the Western Cape and De Pannen near Aberdeen in the Eastern Cape
354683	PIA Phase 1	Bruce Rubidge	24/04/2008	Palaeontological study of the Rystkuil channel
356853	PIA Phase 1	John Almond	01/05/2008	PALAEONTOLOGICAL IMPACT ASSESSMENT, DAMKOPPIE HOUSING DEVELOPMENT, BEAUFORT WEST (WESTERN CAPE)
357439	AIA Phase 1	Dave Halkett	01/09/2009	AN ARCHAEOLOGICAL ASSESSMENT OF URANIUM PROSPECTING ON PORTIONS 1, 3 AND 4 OF THE FARM EERSTE WATER 349, AND REMAINDER OF THE FARM RYST KUIL 351, BEAUFORT WEST
406266	AIA Phase 1	Peter Nilssen	07/06/2010	Scoping Archaeological Impact Assessment: Proposed Beaufort West N1 Wind Energy Farm: 2/158 Lemoenkloof, RE 9/161 Kuilspoort, RE 162 Suid-lemoensfontein and RE 1/163 Bulskop,

				Beaufort West, Western Province
406299	HIA Phase 1	Stefan de Kock	01/10/2011	HERITAGE IMPACT ASSESSMENT: PROPOSED N1 WIND FARM PROJECT: LEMOENFONTEIN 158/2, KUILSPOORT 161/9, LEMOENFONTEIN SOUTH 162/REM & BULSKOP 163/1, BEAUFORT WEST DISTRICT
503074	Heritage Scoping Report	ACO	01/04/2013	Heritage impact assessment (scoping level) of the proposed Aberdeen to Droegrivier 400 kV transmission line Western Cape Province (Central Karoo District) Eastern Cape Province (Kakadu District)
503083	HIA Phase 1	ACO	04/08/2011	HERITAGE ASSESSMENT OF THE PROPOSED UPGRADE TO THE STORMWATER AND RETENTION FACILITIES AT BEAUFORT WEST, WESTERN CAPE
503102	PIA Phase 1	Jennifer Botha-Brink	04/07/2011	PALAEONTOLOGICAL IMPACT ASSESSMENT OF THE PROPOSED UPGRADE TO THE STORMWATER AND DETENTION FACILITIES IN HILLSIDE, BEAUFORT WEST, WESTERN CAPE
503109	HIA Phase 1	Jayson Orton	07/07/2011	HERITAGE IMPACT ASSESSMENT FOR A PROPOSED PHOTO-VOLTAIC FACILITY ON STEENROTS FONTEIN 168/1, BEAUFORT WEST MAGISTERIAL DISTRICT, WESTERN CAPE
503116	Desktop PIA	John E. Almond	01/06/2011	PALAEONTOLOGICAL IMPACT ASSESSMENT: DESKTOP STUDY. Proposed Photovoltaic Power Facility, Farm Steenrotsfontein 168, Beaufort West Municipality, Western Cape Province
503201	AIA Phase 1	Peter Nilssen	15/09/2014	Scoping Archaeological Impact Assessment: Proposed development of the Droërivier Solar Facility, on Portion 55 of Farm 168 Steenrotsfontein and a portion of Portion 10 of Farm 170 Weltevreden, Beaufort West, Western Cape Province
503202	Heritage Statement	Stefan de Kock	01/06/2011	NOTICE OF INTENT TO DEVELOP (NID) & HERITAGE STATEMENT IN TERMS OF SECTION 38(8) OF THE NATIONAL HERITAGE RESOURCES ACT, 1999 (ACT 25 OF 1999): BEAUFORT WEST PHOTOVOLTAIC PARK KUILSPOORT 161/9 & LEMOENFONTEIN SOUTH 162/REM, DISTRICT BEAUFORT WEST
503231	AIA Phase 1	Peter Nilssen	25/05/2011	Scoping Archaeological Impact Assessment: Proposed Beaufort West Photovoltaic Power Station (Solar): southern portion of properties; 2/158 Lemoenkloof, RE 9/161 Kuilspoort, RE 162 Suid-lemoensfontein and RE 1/163 Bulskop, Beaufort West, Western Province
503273	Desktop PIA	John E. Almond	01/06/2011	PALAEONTOLOGICAL IMPACT ASSESSMENT: DESKTOP STUDY: Proposed Photovoltaic Power Station, Beaufort West Municipality, Western Cape

503276	HIA	Stefan de Kock	01/11/2011	INAL INTEGRATED HERITAGE IMPACT ASSESSMENT COMPILED IN TERMS OF SECTION 38(8) OF THE NATIONAL HERITAGE RESOURCES ACT, 1999 (ACT 25 OF 1999). PROPOSED PHOTOVOLTAIC PARK: KUILSPOORT 161/9, LEMOENFONTEIN SOUTH 162/REM & BULSKOP 163/1, DISTRICT BEAUFORT WEST
504763	AIA Phase 1	Peter Nilssen	15/09/2014	Scoping Archaeological Impact Assessment Proposed development of the Droërivier Solar Facility, on Portion 55 of Farm 168 Steenrotsfontein and a portion of Portion 10 of Farm 170 Weltevreden, Beaufort West, Western Cape Province

APPENDICES

CTS HERITAGE

APPENDIX 1: Archaeological Assessment (2021)

CTS HERITAGE

APPENDIX 2: Palaeontological Assessment (2021)

APPENDIX 3: Cultural Landscape Assessment (2021)

APPENDIX 4: Heritage Screening Assessment, NID and NID Response

APPENDIX 5: Results of PPP