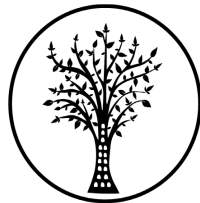


ARCHAEOLOGICAL SPECIALIST STUDY

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

Proposed development of the Sendawo BESS and OHL near Vryburg in the North West Province

Prepared by



CTS HERITAGE

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and

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In Association with

WSP

March 2023

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EXECUTIVE SUMMARY

The proposed Sendawo BESS facility is located within the Vryburg Renewable Energy Development Zone (REDZ) 6, and the proposed 132 kV OHPL is located within the Northern Strategic Transmission Corridor. The proposed BESS facility will be located off the N18, on Portion 1 of the Farm Edinburgh No 735, approximately 5 km south of the of Vryburg in the North West Province. The project entails the construction and operation of the Sendawo 132kV overhead powerline and associated up to 153mW Battery Energy Storage System and substation, that will connect to the operational ESKOM Mookodi Substation

The survey proceeded with some constraints and limitations, yet the project area was comprehensively surveyed for heritage resources. The majority heritage resources identified relate to the historic farm occupation of this area and are considered to be Not Conservation-Worthy. Previous assessments in this area have identified some significant archaeological heritage resources that are located within the proposed grid alignments. Recommendations in this regard are made below.

Recommendations

There is no objection to the proposed development from an archaeological perspective on condition that:

- A no development buffer of 50m is implemented around sites 45521 and 45529 and the area identified as archaeologically sensitive in Figure 8 below is excluded from the development layout
- Should any buried archaeological resources or human remains or burials be uncovered during the course of development activities, work must cease in the vicinity of these finds. The South African Heritage Resources Agency (SAHRA) must be contacted immediately in order to determine an appropriate way forward.



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1. INTRODUCTION

1.1 Background Information on Project

The proposed Sendawo BESS facility is located within the Vryburg Renewable Energy Development Zone (REDZ) 6, and the proposed 132 kV OHPL is located within the Northern Strategic Transmission Corridor. The proposed BESS facility will be located off the N18, on Portion 1 of the Farm Edinburgh No 735, approximately 5 km south of the of Vryburg in the North West Province. The project entails the construction and operation of the Sendawo 132kV overhead powerline and associated up to 153mW Battery Energy Storage System and substation, that will connect to the operational ESKOM Mookodi Substation

The proposed BESS comprises a number of DC Battery Enclosures, Converter Stations, associated auxiliary transformers and an HV substation. Each DC Battery Enclosure is approximately 10 x 2 x 4 m (l x b x h), and houses a number of liquid cooled Lithium-ion batteries. The enclosure is equipped with a fire detection system, and gas detection and prevention mechanism.

A typical up to 153 MW/612MWh BESS system comprises a number of DC Battery Enclosures at a capacity of 2.81 MW. The proposed system has a 4 hour discharge time, with a usable energy of 0.7 MW, hence for a 153 MW/612MWh BESS system, approximately 215 battery enclosures are required.

Each Converter Station comprises of 2 converters (~4200 kW, ~1500VDC, - 690Vac) feeding into a single MV transformer (690V/(22kV-33kV)), with the dimensions of each converter measuring 3.0 x 2.0 x 2.2m. A single converter is fed from approximately 7 Battery Enclosures.

The BESS is supplied by a number of outdoor auxiliary transformers ((22kV-33kV)/(220-380V)) to provide auxiliary power to the plant. The MV transformers feed the HV substation which steps the voltage from 22kV to 66kV through one or more HV transformers, in the HV substation connecting to the Eskom grid. The proposed BESS comprises a number of DC Battery Enclosures, Converter Stations, associated auxiliary transformers and an HV substation. Each DC Battery Enclosure is approximately 10 x 2 x 4 m (l x b x h), and houses a number of Liquid cooled Lithium-ion batteries or Vanadium Redox Flow Batteries. The enclosure is equipped with a fire detection system, and gas detection and prevention mechanism.

The onsite HV substation will be constructed with a maximum footprint of approximately 56 800 m² and encloses the 22kV/66kV HV power transformer. A lightning mast with a maximum height of 24m, tower sections, earthing switches, circuit breakers, surge arrestors, busbars and other miscellaneous substation equipment, including a substation building containing MV switchgear, control and protection equipment will also form part of the onsite substation.

The proposed OHPL is a 132 kV single or double steel structure with a kingbird conductor. The powerline will be supported by powerline towers which may be steel lattice (518 H and 518 C) or monopole structures, both options will have a maximum height of 28 m.



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Please note that this assessment was conducted on the basis of the original layout where the lay down area wasn't separated from the BESS area. This has been amended in subsequent layouts, however this makes no difference to the outcome of this assessment. The maps drafted for this report are also based on an early project description that was intended for a 400 kV powerline. However, please note that the assessment has been conducted based on the 132kV powerline information.

1.2 Description of Property and Affected Environment

The area proposed for development is dominated by Ghaap Plateau Vaalbosveld. The area is densely vegetated with various grass, plant, shrubs and tree species. *Some of the species observed appear to belong to Acacia, Olea europaea, and Boscia, among others.*

The study area consists of a gently undulating landscape and rocky outcrops are found throughout the site. The geology of the area consists of surface limestone of Tertiary to recent age, as well as dolomite and chert of the Campbell Group.

Several water sources can be found near the northernmost corridor. Dirt roads and farmlands bound the site (Edinburgh 735) to the north, south, east and west. The N18 is situated east of the corridor and substation (Waterloo 730 and Rosendal 673). Animal grazing and small animal burrows (several of which are found around BESS 2, and along the corridors), have disturbed certain areas due to overgrazing and watering holes. Human-made holes and a landfill dumping site are situated near the substation. Several wire-fenced livestock kraals are located throughout the area.

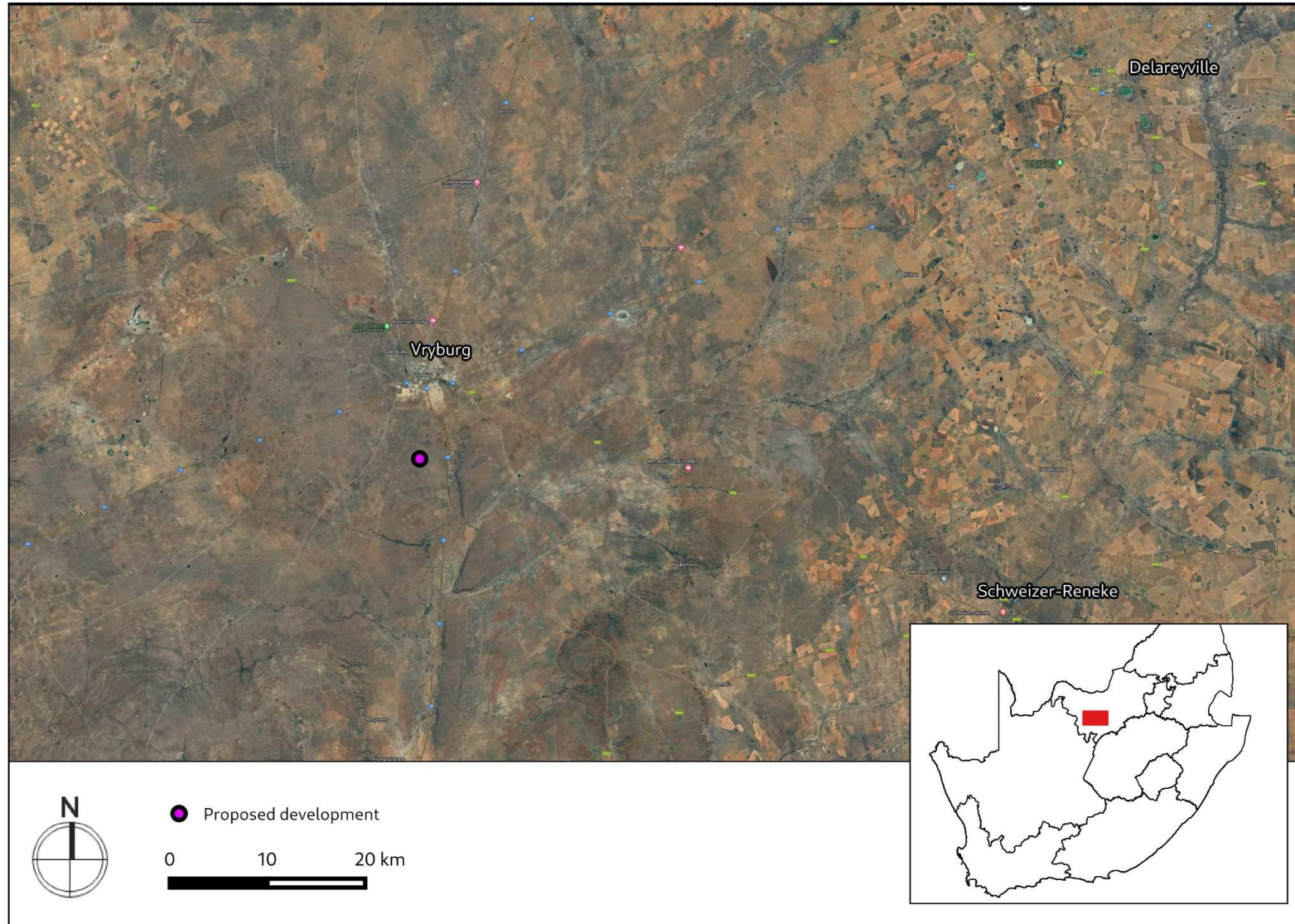


Figure 1.1: Satellite image indicating proposed location of development



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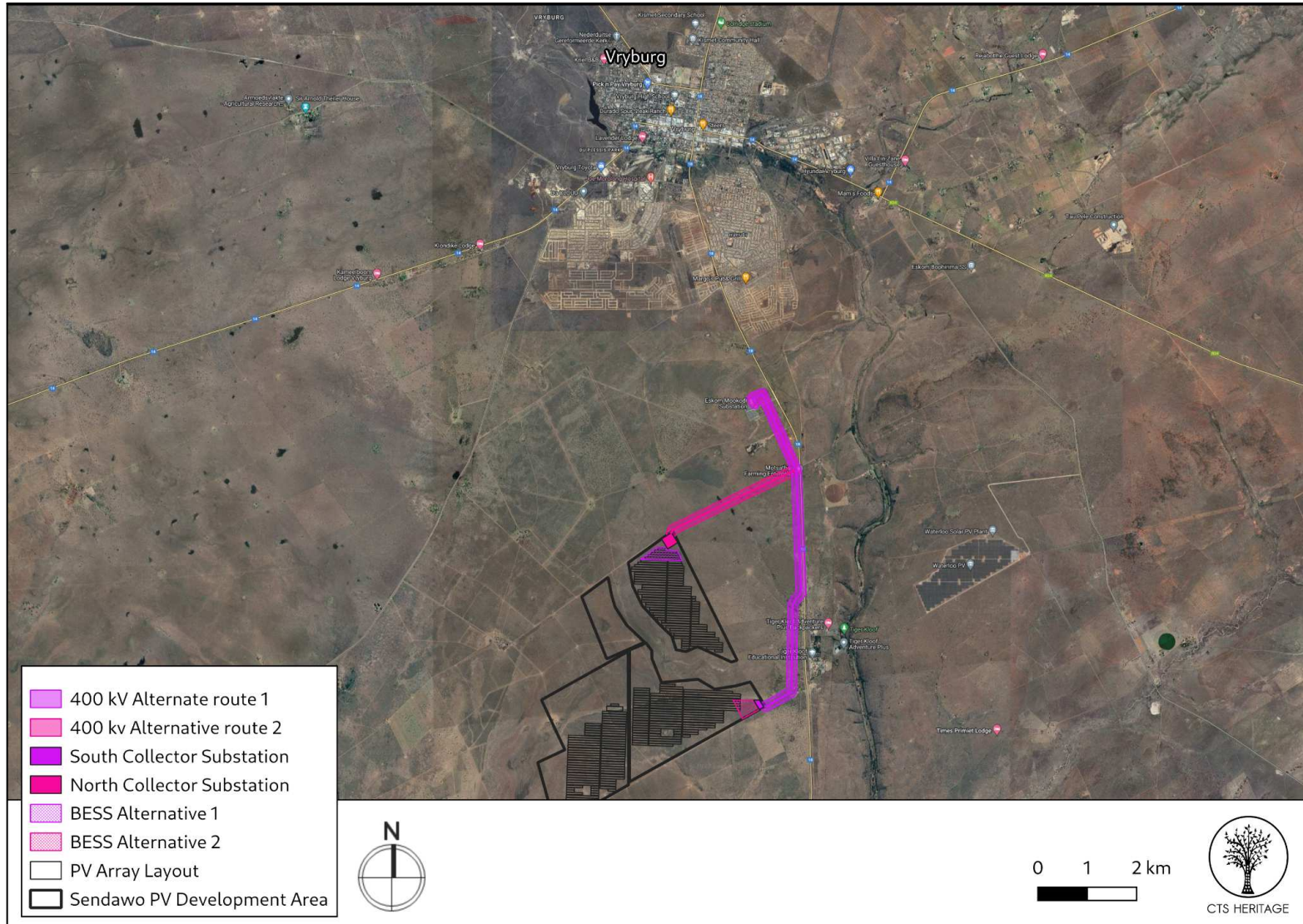


Figure 1.2: Proposed project boundary



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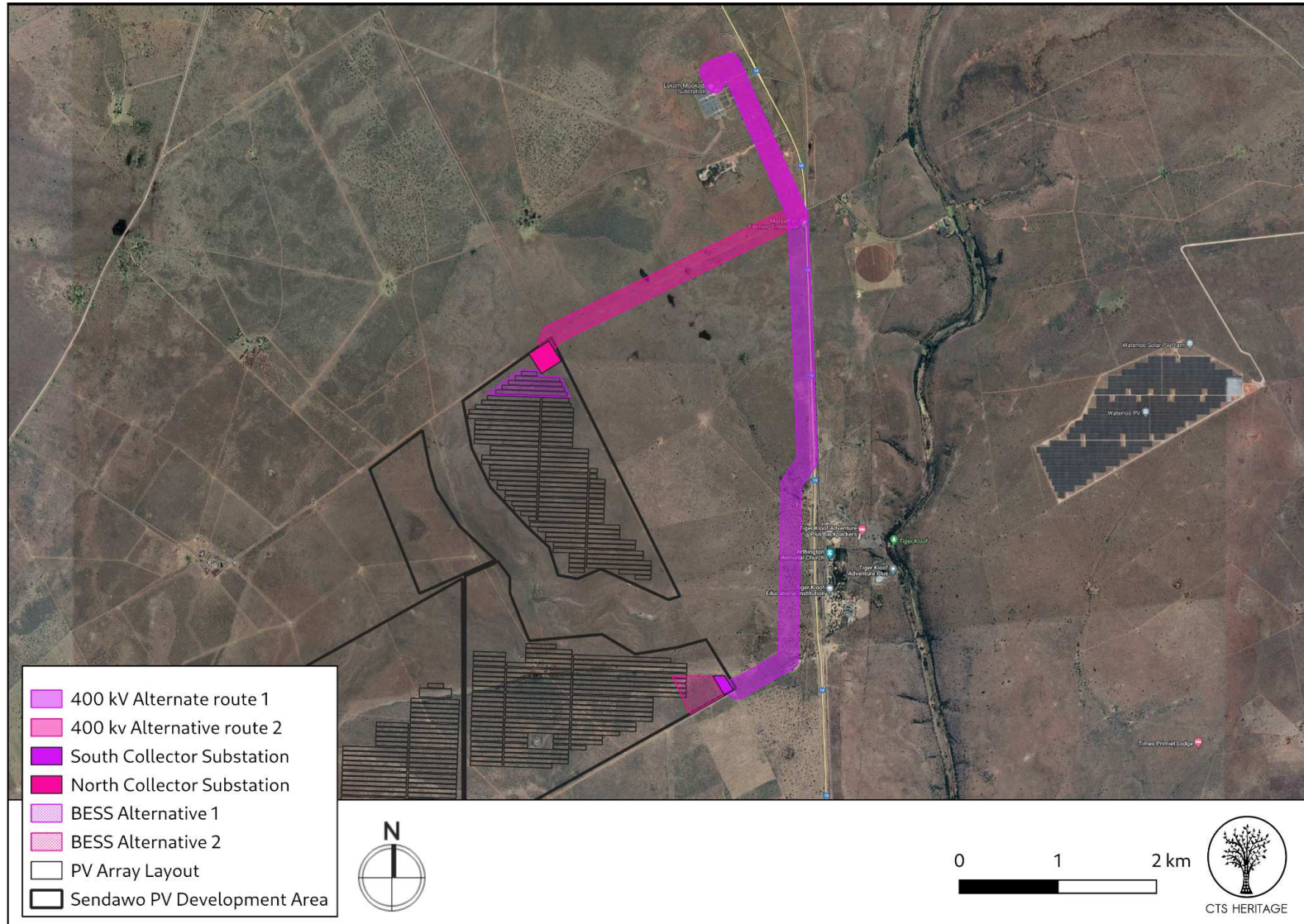


Figure 1.3: Proposed project boundary



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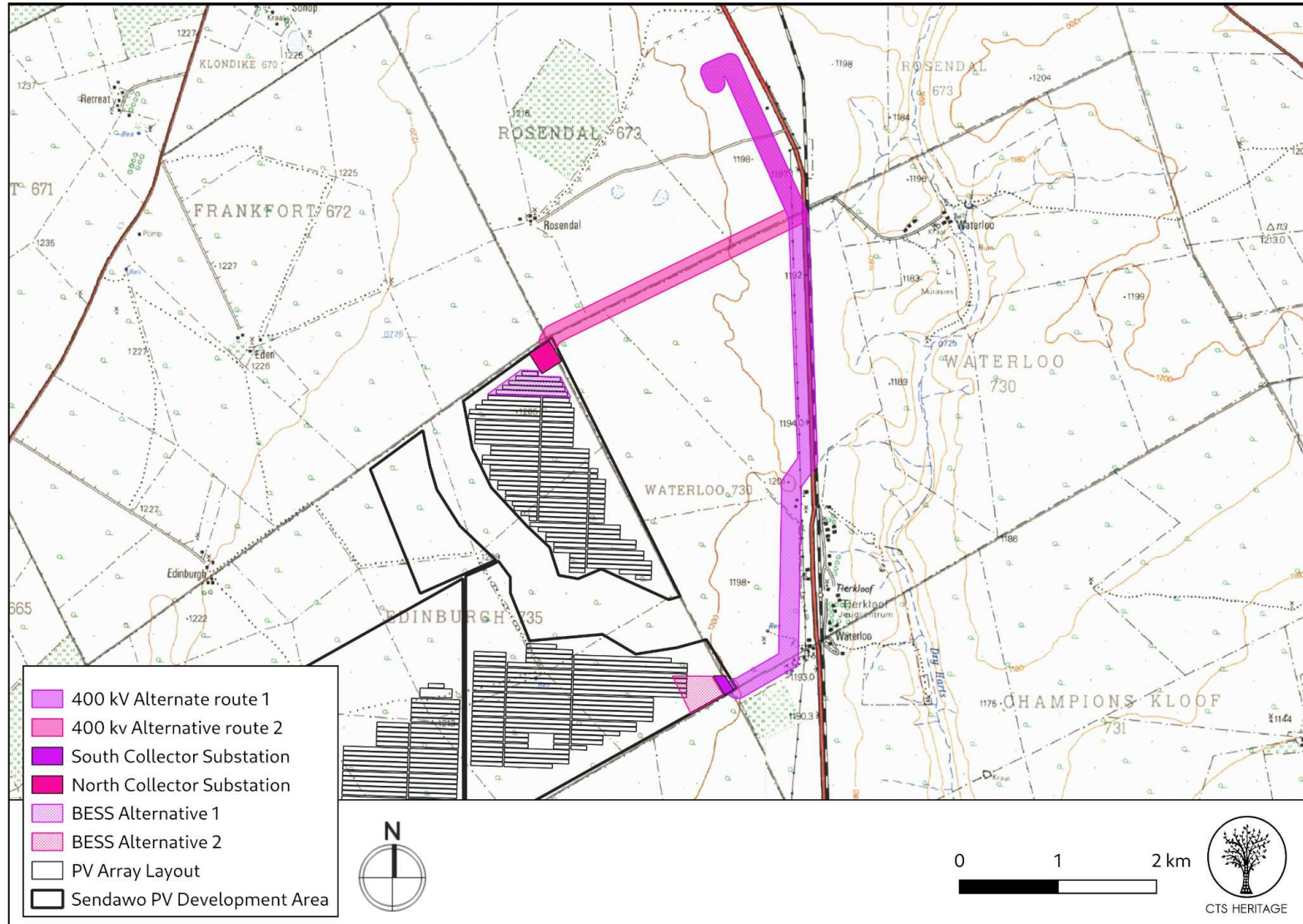


Figure 1.4: Proposed project boundary indicated on the 1:50 000 Topo Map



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2. METHODOLOGY

2.1 Purpose of Archaeological Study

The purpose of this archaeological study is to satisfy the requirements of section 38(8), and therefore section 38(3) of the National Heritage Resources Act (Act 25 of 1999) in terms of impacts to archaeological resources.

2.2 Summary of steps followed

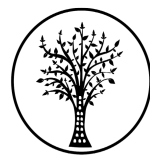
- An archaeologist conducted a survey of the site and its environs on 23 and 24 March 2023 to determine what archaeological resources are likely to be impacted by the proposed development of the PV facility and grid connection.
- The area proposed for development was assessed on foot, photographs of the context and finds were taken, and tracks were recorded using a GPS.
- The identified resources were assessed to evaluate their heritage significance in terms of the grading system outlined in section 3 of the NHRA (Act 25 of 1999).
- Alternatives and mitigation options were discussed with the Environmental Assessment Practitioner.

2.3 Constraints & Limitations

The entire area was surveyed as best as possible and as the vegetation and environment allowed. The site is densely vegetated in certain areas and impedes perfect transects. Fenced animal kraals further restricted direct access, and certain areas had to be reached through gates that were situated far away from the corridors. Where possible, fences were climbed, but it was not a possibility throughout.

On the afternoon of the 23rd a heavy thunderstorm occurred, forcing us to leave the site early. The following day (24th of March) the surface was consistently wet, as it rained (softly and hard) throughout the day.

Please note that this assessment was conducted on the basis of the original layout where the lay down area wasn't separated from the BESS area. This has been amended in subsequent layouts, however this makes no difference to the outcome of this assessment.



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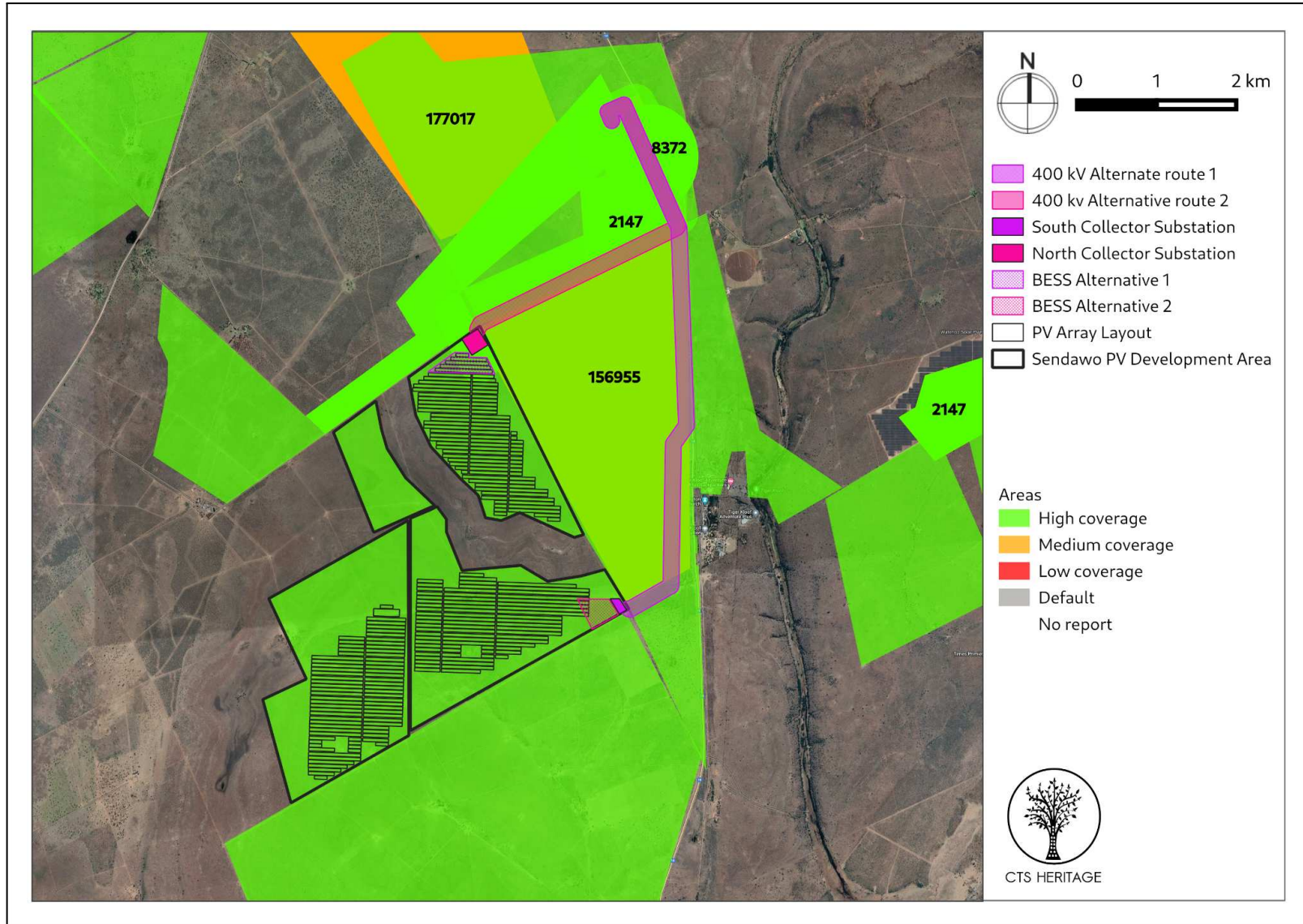


Figure 2: Close up satellite image indicating proposed location of development in relation to heritage studies previously conducted



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3. HISTORY AND EVOLUTION OF THE SITE AND CONTEXT

Background

This report is drafted for the proposed construction and operation of a Battery Energy Storage (BESS) and a grid connection for the authorised Sendawo Solar Energy Facility. The BESS which will have an extent of no more than 5ha will be developed within the authorised development footprint of the Sendawo PV facility. Two options are proposed for the area proposed for the BESS development, both are located within the area previously assessed for the Sendawo PV facility. This area was thoroughly assessed for impacts to heritage resources in the Heritage Impact Assessment conducted by Fourie (2016, SAHRIS NID 9721). The HIA by Fourie (2016) and an HIA completed by Van Schalkwyk (2018) for an adjacent property is referred to below.

Archaeology and Built Environment Heritage

Vryburg town was established in 1882 as the capital town of the independent Boer Republic of Stellaland. During its short history, the small state became a focal point for conflict between the British Empire and the South African Republic, the two major players vying for control of the territory. After a series of claims and annexations, British fears of Boer expansionism led to its demise and, among other factors, set the stage for the Second Boer War. Before the proclamation of the republic, the area was under the control of competing Korana and Tswana groups, while the United Kingdom laid claim to it as a part of the emerging protectorate of British Bechuanaland. Two of the indigenous groups were under the leadership of chiefs Mankoroane and Montšioa, whom the British regarded as "friendly," and two others under the leadership of chiefs Moshette (a Motswana) and Massouw (a Korana). When a feud erupted between Mankoroane and another chief, each side resorted to recruiting volunteers, promising them land in return for their assistance. After a settlement was negotiated with mediation from the Transvaal Republic, large portions of Mankoroane's land were given to Boer mercenaries who had fought on his adversary's side, and the new inhabitants decided to declare independence and establish the Republic of Stellaland. During the Second Boer War, a concentration camp was established at Vryburg, however this concentration camp is located north of Vryburg town and is therefore located sufficiently far from the area proposed for development that no impact is anticipated.

According to van Schalkwyk et al (2018, SAHRIS NID 510838) "Very little habitation of the central highveld area took place during Stone Age times. Tools dating to the Early Stone Age period are mostly found in the vicinity of larger watercourses, e.g. the Vaal River or the Harts River and especially in sheltered areas such as at the Taung fossil site. During Middle Stone Age (MSA) times (c. 150 000 – 30 000 BP), people became more mobile, occupying areas formerly avoided. In many cases, tools dating to this period are found on the banks of the many pans that occur all over." Van Schalkwyk (2018, SAHRIS NID 510838) notes that Later Stone Age artefacts and rock art are also known from the area. Iron Age people started to settle in the area in the 1500s. According to Van Schalkwyk (2018, SAHRIS NID 510838), "By the 16th century things changed, with the climate becoming warmer and wetter, creating condition that allowed Late Iron Age (LIA) farmers to occupy areas previously unsuitable, for example the treeless plains of the Free State and North West Province." including the proposed development area. "The earliest Iron Age settlers who moved into the North West Province region were Tswana-speakers such as the Tlhaping, Hurutshe, Fokeng, Kgatla and Rolong. In the region of the study area, it was mostly the booRapulana and booRatlou sections of the Rolong (Breutz 1959)."



Despite the overall archaeological sensitivity of the broader landscape, the archaeological survey conducted by Fourie (2016) identified limited heritage resources of value within the areas proposed for the BESS facilities. Fourie (2016) notes that “The find spots in the larger study area varied from Later Stone Age (LSA) scatters consisting of flakes, chips and some cores manufactured from fine-grained quartzite, chalcedony, and cryptocrystalline (ccs) material; Middle Stones Age (MSA) lithics consisting of cores, chips and flakes with a low occurrence of formal tools. The majority of the material utilised were either lideanite that occur in the form of medium sized boulders or round washed pebbles in the area or coarse-grained quartzite that occur as sporadic outcrops. Earlier Stone Age (ESA) lithics found at some of these finds spots consisted of a hand axe, cleavers and large flakes. Most of the lithics were either rolled or heavily weathered with patination evident on many of the lithics. No heritage resources related to archaeology or the more recent history was identified in the footprint area of Solar 3” (The proposed BESS locations are within Sendawo Solar Area 3).

The field assessment for the Sendawo Grid connection assessed a corridor that includes the alternatives considered in this report. Two archaeological sites of significance were identified by Fourie (2016) in his assessment. These sites, as well as others that occur within the grid corridor are detailed in the table below:

Table 1: Sites previously identified within the development area

Site ID	Site Name	Corridor	Description	Grade	Mitigation
45521	WATER05	Alt 2	The site consists of a low ridge in the eastern portion of the study area that crosses the study area roughly from the north to the south and south east. The entire ridge is covered in MSA and LSA artefacts where the locally available CCS is exploited. The MSA component is characterised by a high frequency of blades. From casual observation it seems as if a higher frequency of concentration of artefacts are found on the eastern side of the ridge where there is a clear view to the Dry Harts River roughly more than 2km to the east. Where higher artefact concentrations or where a clear edge to a concentration could be determined within the ridge these were recorded as Site 1 A to Site 1 I. These concentrations are how ever seen as part of one knapping site (Site 1) where there is a high ratio of artefacts to cores. This site consists of high concentration 22-m ² of MSA and LSA tools from CCS and Quartzite.	IIIA	Buffer of 50m recommended - See Figure 8
45529	WATER09	Alt 1	The site consists of a low ridge in the eastern portion of the study area that crosses the study area roughly from the north to the south and south east. The entire ridge is covered in MSA and LSA artefacts where the locally available CCS is exploited. The MSA component is characterised by a high frequency of blades. From casual observation it seems as if a higher frequency of concentration of artefacts are found on the eastern side of the ridge where there is a clear view to the Dry Harts River roughly more than 2km to the east. Where higher artefact concentrations or where a clear edge to a concentration could be determined within the ridge these were recorded as Site 1 A to Site 1 I. These concentrations are how ever seen as part of one knapping site (Site 1) where there is a high ratio of artefacts to cores. This site consists of Artefact count	IIIA	Buffer of 50m recommended - See Figure 8



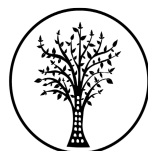
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			13-m ² . LSA dominates with some MSA. Raw material on CCS and quartzite.		
32418	Exhumation of graves at Eskom Mookodi Substation1	Alt 2 (although likely to have been mapped incorrectly)	Permit granted in 2014 to remove the graves at this site to a new location: PGS Heritage was appointed by Eskom Holdings SOC Limited, to effect the relocation of 6 graves located within the Eskom Mookodi substation area. The graves are located next to the substation High Voltage yard and have been fenced off. The graves need to be relocated as the expansion of the substation necessitates their relocation after alternatives for their preservation that were investigated were not viable. Based on this description, this site is likely the same as Sites 46713, 130097 and 130952 but mapped incorrectly	IIIA	NA
138456	SDNP004	Alt 2	Shallow sandy soils on shale and quartzites with minor dolomite. No heritage significance	NCW	NA
131106	SDG001	Alt 2	Low density scatter of MSA lithics over an area of approximately 50 m ² . The site is characterised by a large pebble concentration within a dry pan. Same location as Site 130787 Low density scatter of MSA lithics over an area of approximately 50 m ² . The site is characterised by a large pebble concentration within a dry pan. The sites varied from Middle Stone Age (MSA) scatters consisting of flakes and some cores manufactured from coarse-grained quartzite material; Early Stones Age (ESA) lithics consisting of cores and a hand axe with a low occurrence of formal tools. The majority of the material utilised were either lideanite that occur in the form of medium sized boulders or round washed pebbles in the area or coarse-grained quartzite that occur as sporadic outcrops. Most of the lithics were either rolled or heavily weathered with patination evident on many of the lithics. Find spots V07 and V08 have a low significance, however the possibility of subsurface deposits cannot be discounted and was kept in mind with the development of the mitigation recommendations.	IIIC	Implement walk down of final alignment on power line alignment
131107	SDG002	Alt 2	Low density scatter of MSA and ESA material The site is characterised by the typical Savanna Biome and more specifically in the Ghaap Plateau Vaalbosveld Group the size of the site is about 130 m ² . Same location as Site 130788: Low density scatter of MSA and ESA material The site is characterised by the typical Savanna Biome and more specifically in the Ghaap Plateau Vaalbosveld Group the size of the site is about 130 m ² . The sites varied from Middle Stone Age (MSA) scatters consisting of flakes and some cores manufactured from coarse-grained quartzite material; Early Stones Age (ESA) lithics consisting of cores and a hand axe with a low occurrence of formal tools. The majority of the material utilised were either lideanite that occur in the form of medium sized boulders or round washed pebbles in the area or coarse-grained quartzite that occur as sporadic outcrops. Most of the lithics were either rolled or heavily weathered with patination evident on many of the lithics. Find spots V07 and V08 have a low significance, however the possibility of subsurface deposits cannot be discounted and was	IIIC	Implement walk down of final alignment on power line alignment



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			kept in mind with the development of the mitigation recommendations.		
130952	VBS003	Both	Originally some graves occurred in this area. They were very old and only marked with low stone cairns. As they were located next to the laydown area for the construction of the substation, they were fenced off. They could not be located during the site visit (possibly due to incorrect coordinates). It is also possible that they were relocated during the construction activities. Same location as Site 46713 and 130097	IIIA	All cemeteries should have a buffer of at least 20 metres from the outermost graves. Fortunately, many cemeteries are fenced off, which can then be used as a buffer. Likely already exhumed



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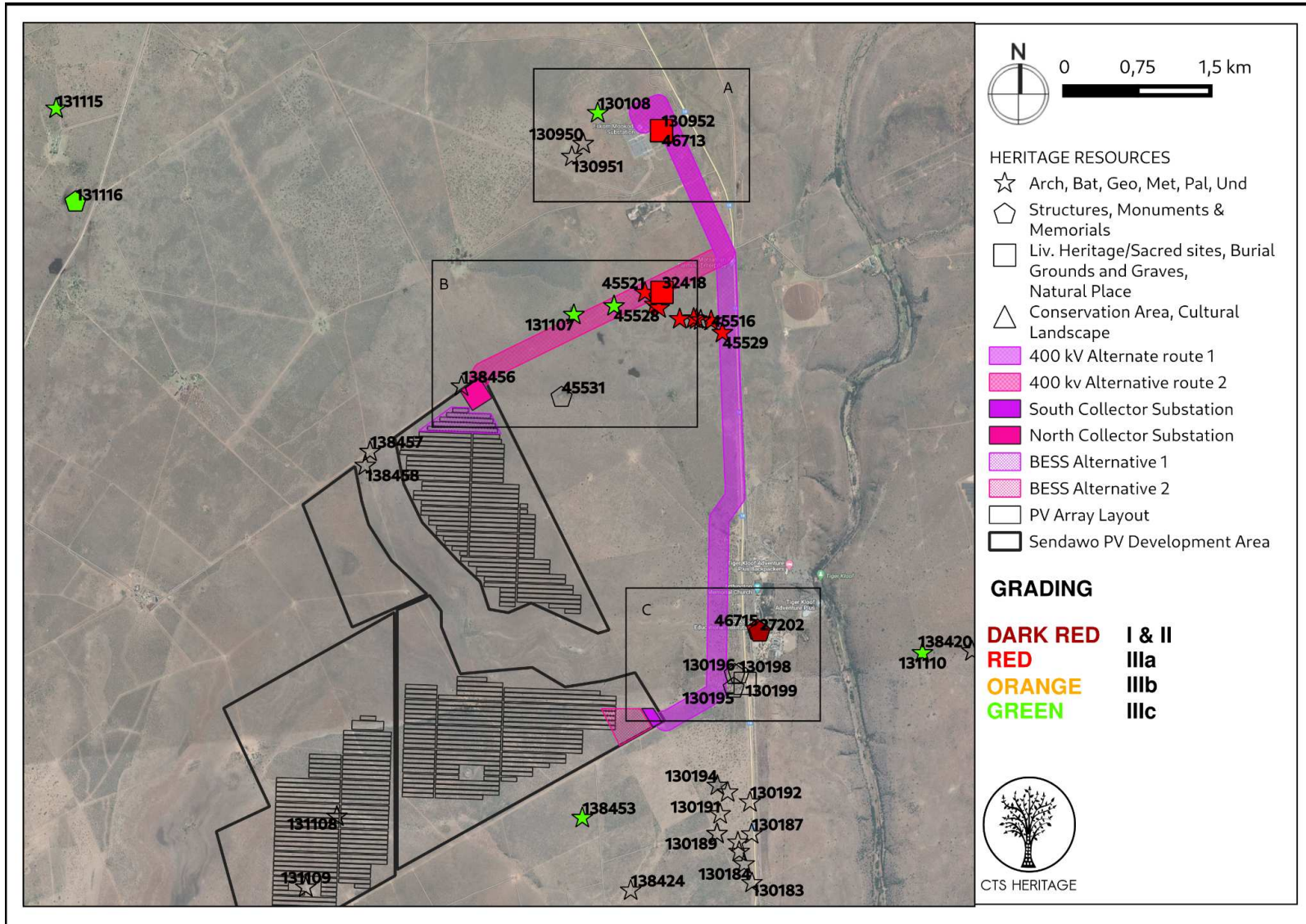


Figure 3. Heritage Resources Map. Heritage Resources previously identified in and near the study area, with SahrIs Site IDs indicated



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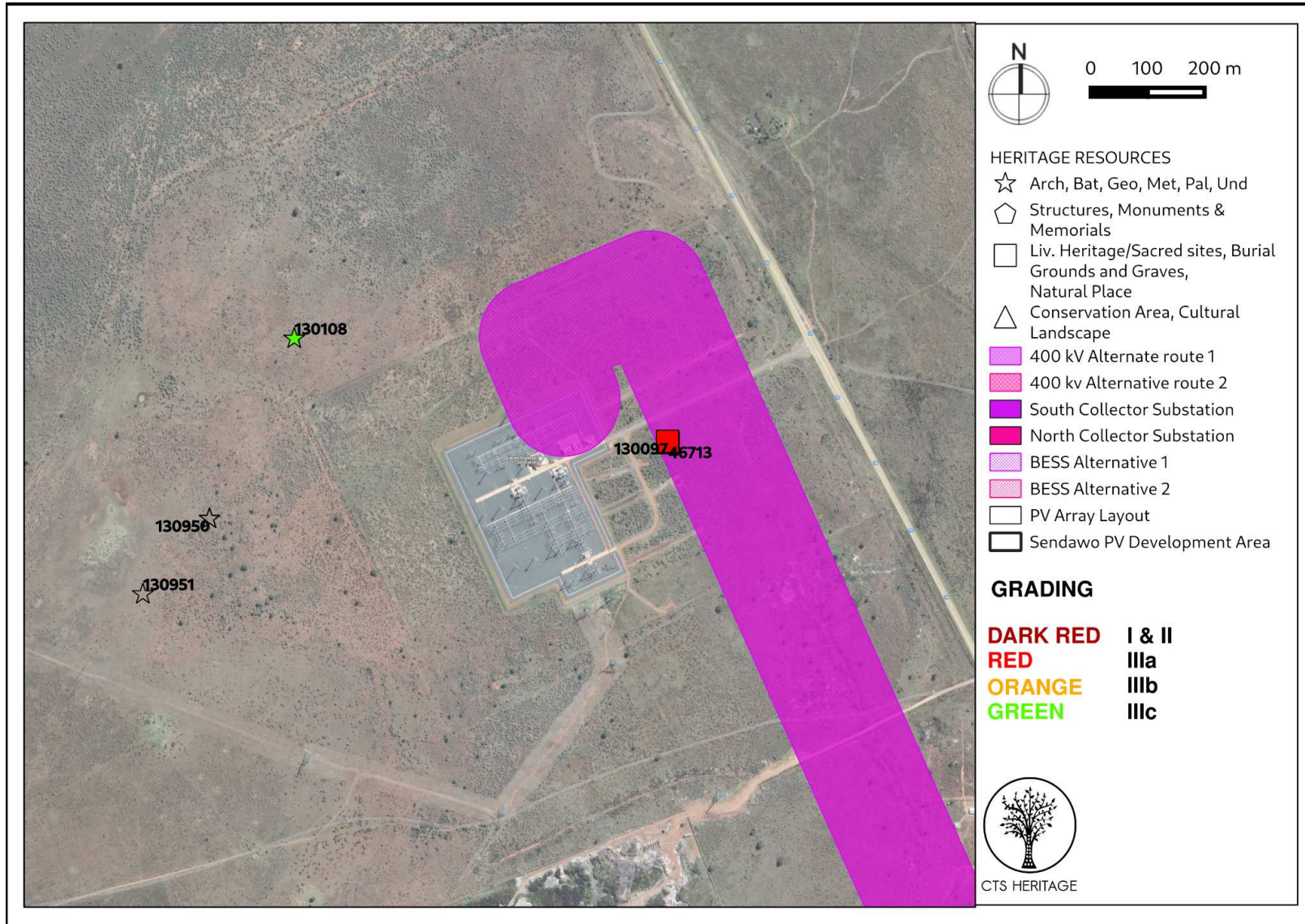


Figure 3.1. Heritage Resources Map. Heritage Resources inset A



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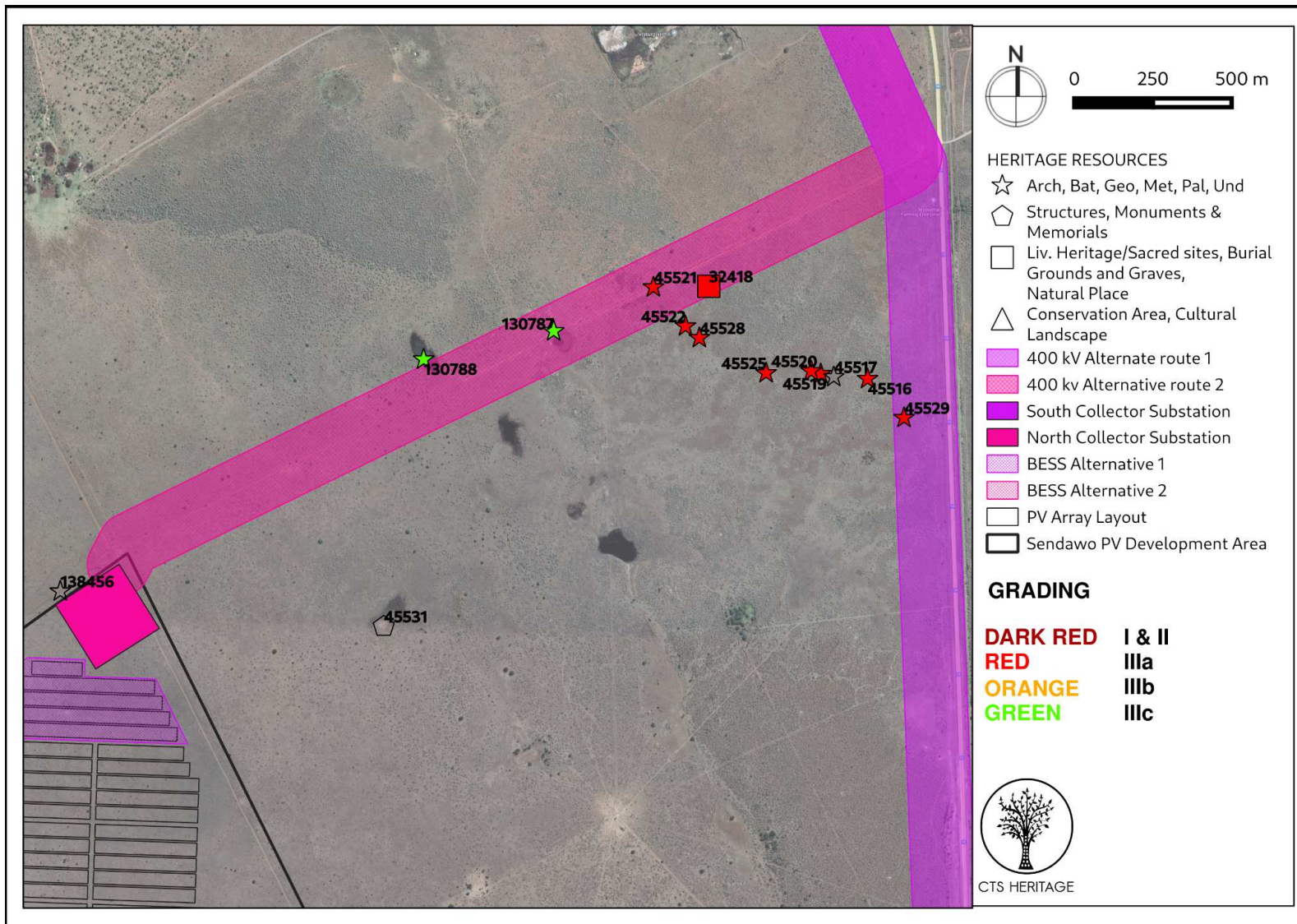


Figure 3.2. Heritage Resources Map. Heritage Resource inset B



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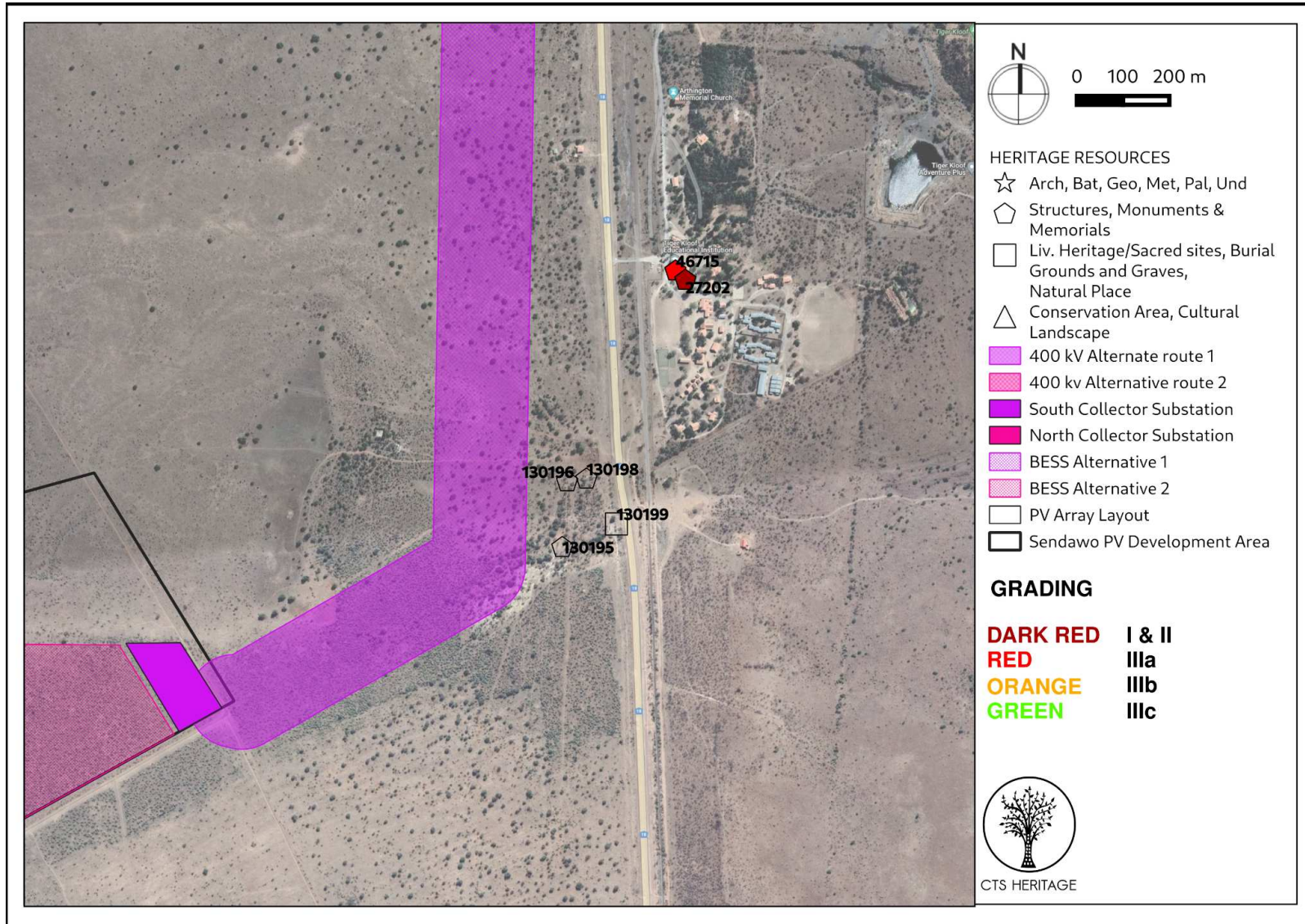


Figure 3.3. Heritage Resources Map. Heritage Resource inset C



4. IDENTIFICATION OF HERITAGE RESOURCES

4.1 Field Assessment

The three lithic occurrences were isolated finds without context and are considered to be of low significance. They are thus Non-Conservation Worthy.

No historical period resources were identified at BESS 1 and 2 or at the alternative areas. Several structural features were noted throughout the survey of the corridors. Some of these features (005-007) are all situated directly within the development footprint of the proposed corridors. Additionally, structural features (002, 003, 009 and 010) were identified just outside of the proposed corridor area.

Resources related to farming activities and farming machines (008) were noted. One of the cement resources had a date as well as a name inscribed on it. These resources (007, 008, 009 and 010) are all likely less than 60 years of age and are therefore considered Non-Conservation Worthy.

The original stonework at resources at 003, 005, and 006 likely date to the early 20th century, however, have been continuously modified (possibly till the 1960s), these are thus considered to be Non-Conservation Worthy. The large midden (002) has 20th-century cultural material. Unfortunately, a Phase 1 will not be able to determine whether there is sub-surface material dating to the early 20th-century.

These historic resources do not appear to have any archaeological or cultural significance; additionally, most of them are likely to be younger than 60 years of age. The structural features that have older stonework (early 20th century) have been modified and are therefore considered to have low cultural or archaeological significance and/or have been disturbed by farming activities.



Figure 4.1 Contextual Images - BESS 1 and Alternative



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Figure 4.2 Contextual Images - BESS 1 and Alternative



Figure 4.3 Contextual Images - BESS 2 and Alternative



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Figure 4.4 Contextual Images - BESS 2 and Alternative



Figure 4.5 Contextual Images - Corridor



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Figure 4.6 Contextual Images - Corridor



Figure 4.7 Contextual Images - Corridor



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Figure 4.8 Contextual Images - Corridor



Figure 4.9 Contextual Images - Corridor



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Figure 4.10 Contextual Images - Substation



Figure 4.11 Contextual Images



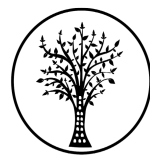
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Figure 4.12 Contextual Image - Substation



Figure 4.13 Contextual Images - Substation



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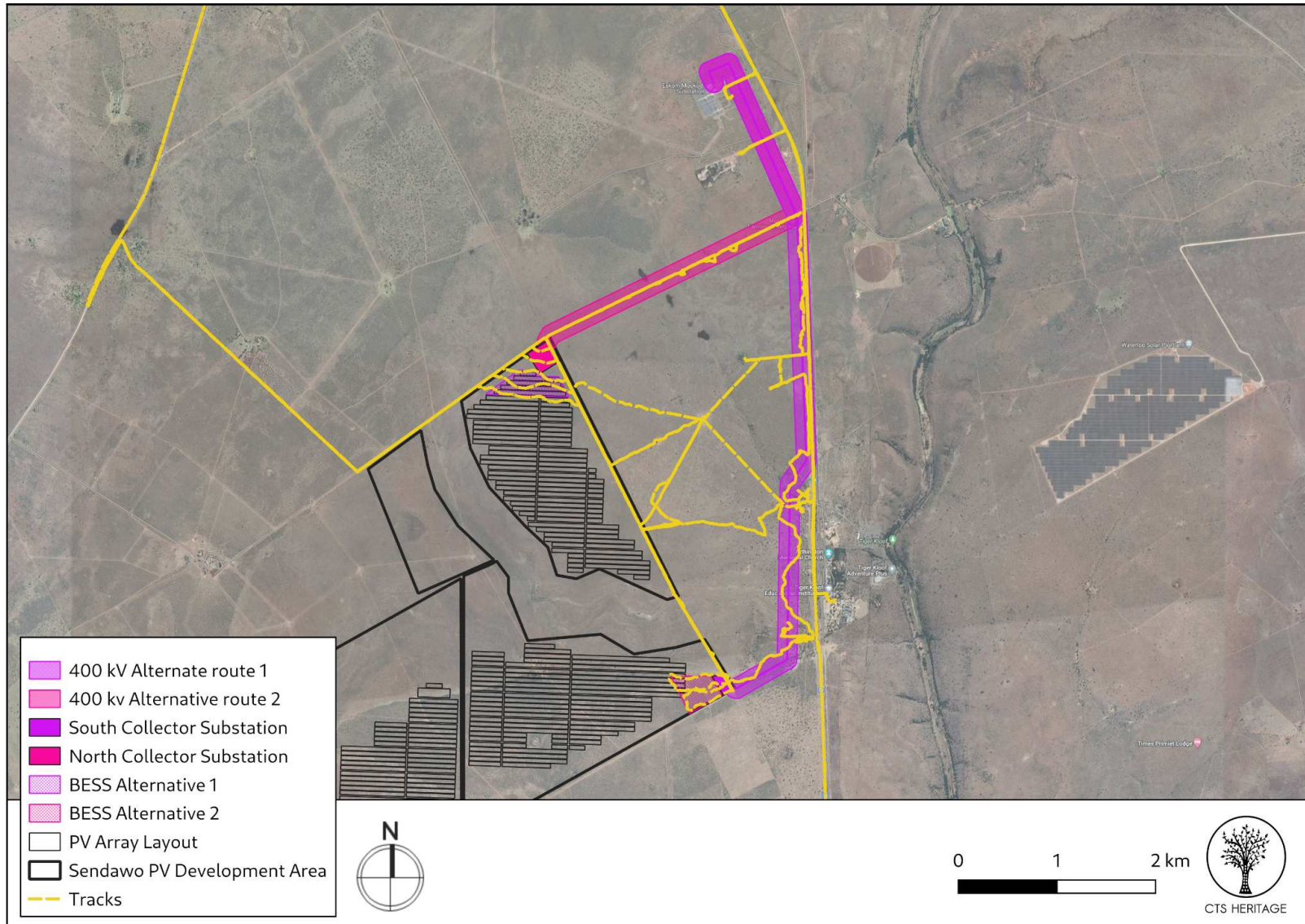


Figure 5.1. Track paths of archaeological field assessment - the dense vegetation impacted the survey (see Constraints and Limitations)



4.2 Archaeological Resources identified

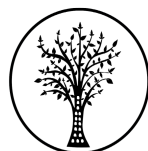
Table 1: Observations noted during the field assessment

POINT ID	Description	Type	Co-ordinates		Grading	Mitigation
001	Dolerite flake located within the BESS2 footprint	MSA/LSA	27° 3'48.43"S	24°44'42.26"E	NCW	NA
002	A prominent midden feature with 20 th -century glass on the surface. Situated near the kraal (003)	Historic Midden	27° 2'43.25"S	24°45'14.80"E	NCW	NA
003	<p>A large kraal, possibly used for smaller livestock such as sheep/goats. Several additional structural features around the kraal and midden include water troughs. It appears to be unused.</p> <p>The original stonework appears to date to the early 20th century. However, it has been modified over the decades with concrete and bricks.</p>	Historic Kraal	27° 2'43.77"S	24°45'14.67"E	NCW	NA
004	Dolerite flake located within near to a rocky outcrop	MSA/LSA	27° 1'32.95"S	24°44'28.69"E	NCW	NA
005	<p>Two structural ruins situated near a modern chicken and goat livestock kraal. They appear to be used as a dumping/storing area. Modern motor vehicle items can be found here, such as a door and several tires.</p> <p>The area is relatively disturbed by current livestock agricultural activities, and no above-ground cultural material was identified.</p> <p>The original stonework appears to date to the early 20th century. However, it has been modified over the decades with concrete and bricks.</p>	Ruins	27° 2'47.28"S	24°45'10.51"E	NCW	NA
006	<p>Stone and cement feature Situated near a modern chicken and goat livestock kraal. The area is relatively disturbed by current livestock agricultural activities, and no above-ground cultural material was identified.</p> <p>The original stonework appears to date to the early 20th century. However, it has been modified over the decades with concrete and bricks.</p>	Structure	27° 2'48.58"S	24°45'10.61"	NCW	NA
007	Stone and cement foundation likely associated with the other nearby structures. No above-ground cultural material was identified. The structure was likely broken-down or bulldozed – the area is also disturbed.	Structure	27° 2'44.13"S	24°45'11.58"E	NCW	NA
008	<p>Machinery and water pump hole(?). Two of the cement blocks associated with farming machinery have been marked. Handprints marked one with a horseshoe between them, the other was marked with writing.</p> <p>The inscription says: W. du P.23/3/68. The inscription provides us with a relative date, which indicates that it is less than 60 years of age.</p>	Structure	27° 3'33.11"S	24°45'9.64"E	NCW	NA
009	Structural feature Located near a modern livestock kraal and dirt road. Appears to be a water reservoir along with the foundation of a broken-down structural feature.	Structure	27° 3'32.98"S	24°45'15.20"E	NCW	NA



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010	One room structure Located near a modern livestock kraal and dirt road. No additional above-ground cultural material was identified.	Structure	27° 3'33.48"S	24°45'14.08"E	NCW	NA
011	Dolerite flake located within near to a rocky outcrop	MSA/LSA	27° 2'9.23"S	24°45'13.94"E	NCW	NA



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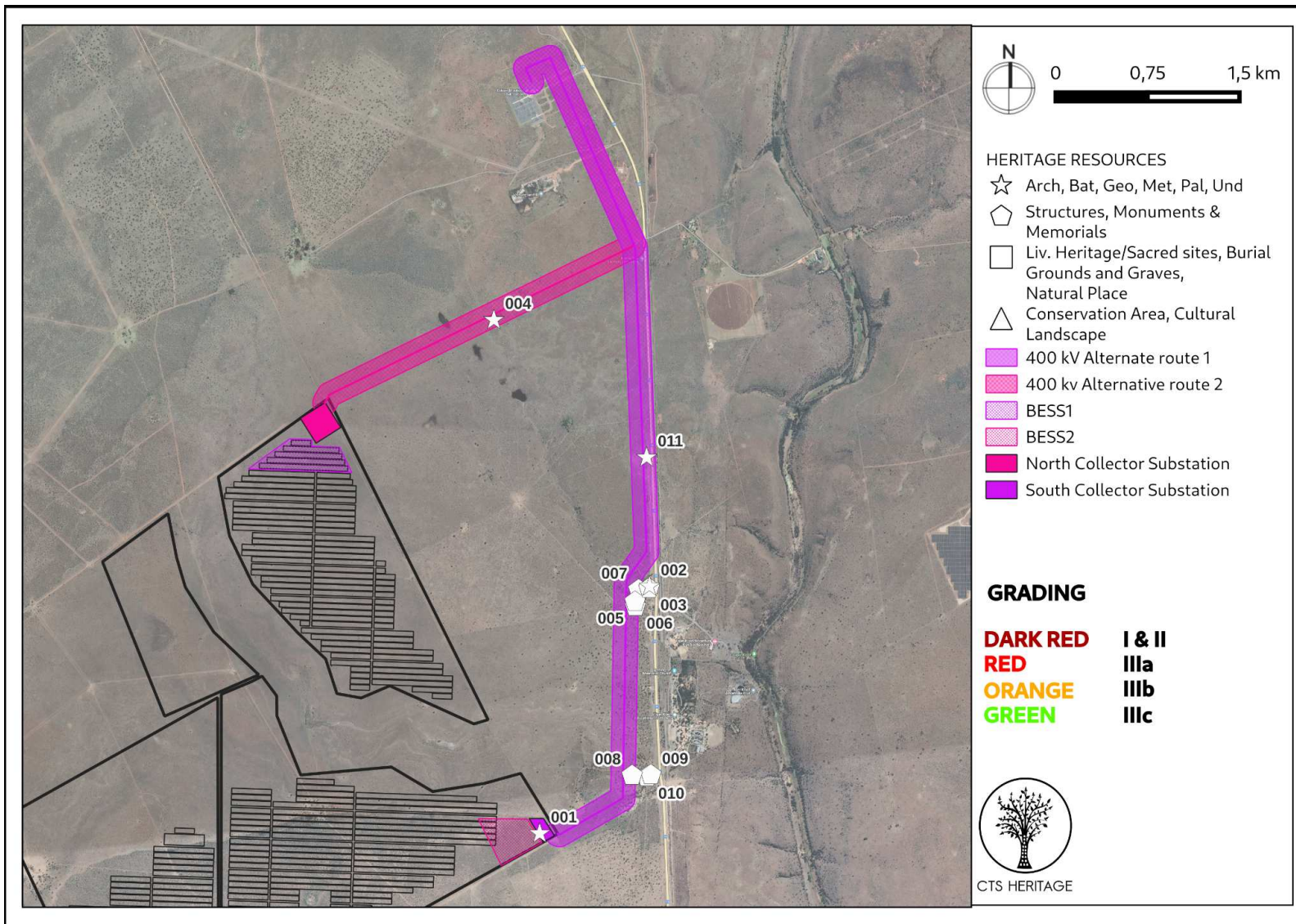


Figure 6.1: Map of all sites and observations noted within the development area



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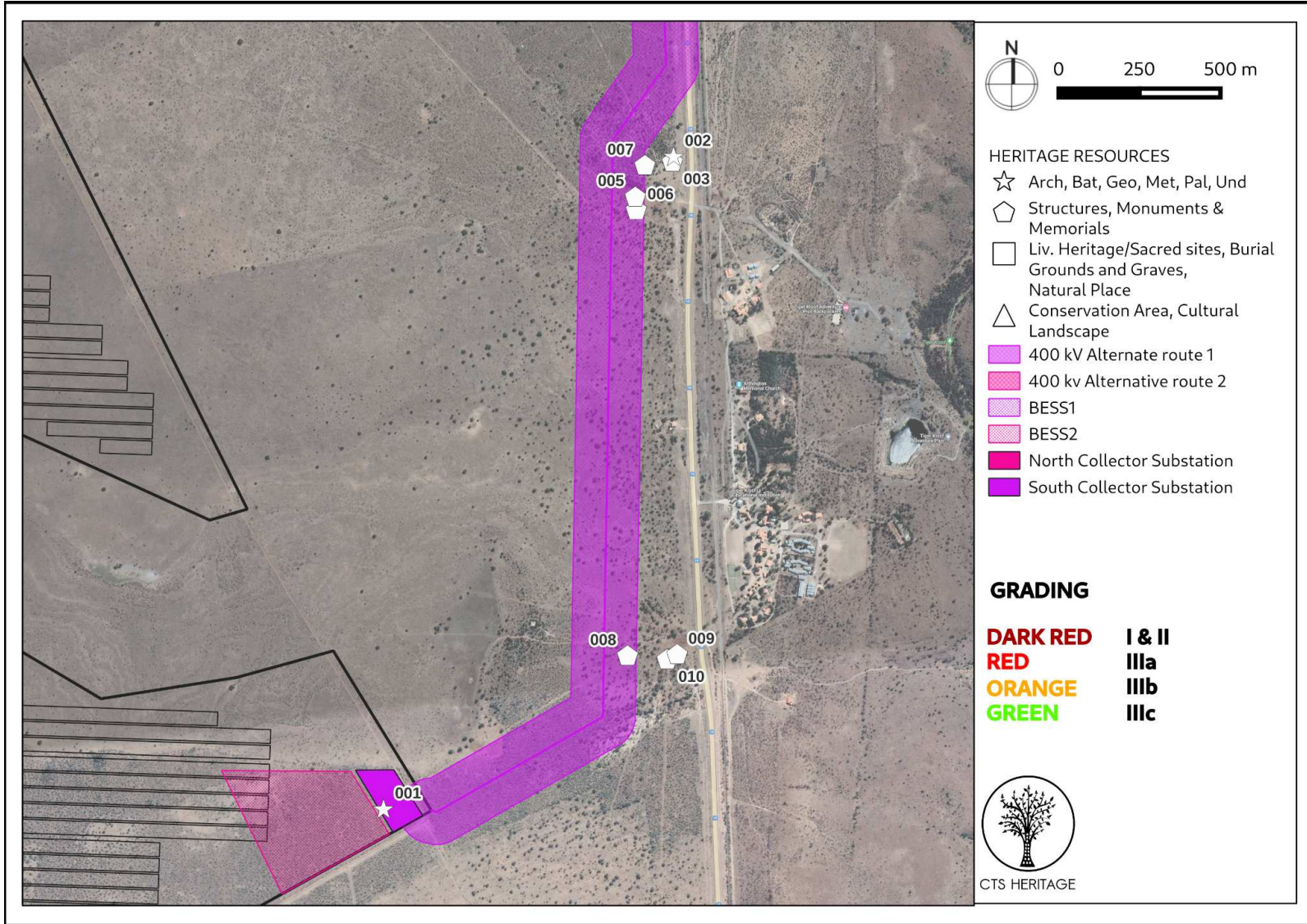


Figure 6.2: Map of all sites and observations noted within the development area



4.3 Selected photographic record

(a full photographic record is available upon request)

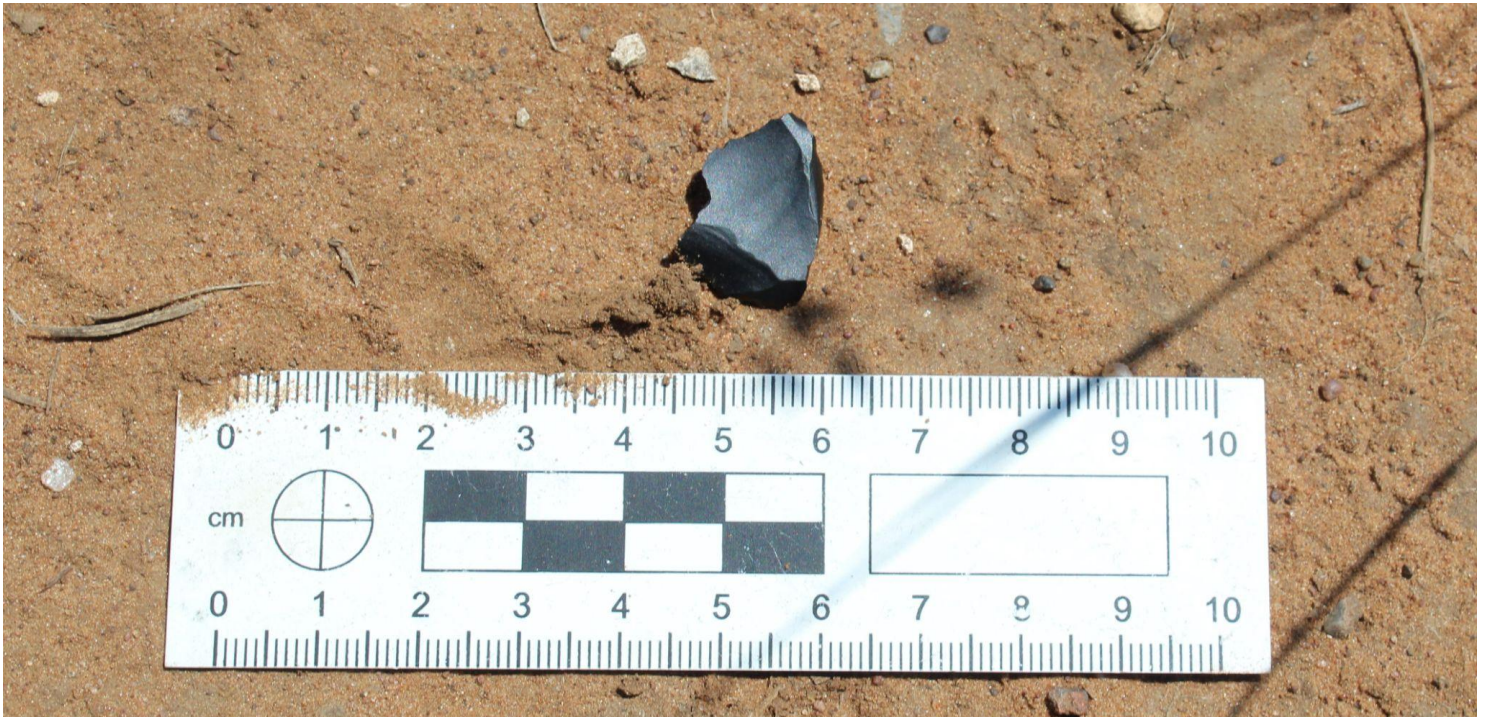


Figure 7.1 001



Figure 7.2 002



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Figure 7.3 003



Figure 7.4 004



Figure 7.5 005



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Figure 7.6 006



Figure 7.7 007



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Figure 7.8 008



Figure 7.9 009



Figure 7.10 010



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Figure 7.11 011



5. ASSESSMENT OF THE IMPACT OF THE DEVELOPMENT

5.1 Assessment of impact to Archaeological Resources

As was anticipated in the desktop assessment, the heritage observations made during the field assessment consisted of minimal Stone Age archaeology and a number of structures related to the agricultural history of the area. The field assessment completed in March 2023 identified no heritage resources of significance located within either of the proposed grid alignment alternatives, or within the areas proposed for the BESS and substation infrastructure.

Previous heritage assessments completed here (Fourie, 2016) identified a number of heritage resources located within the grid alignment (Table 1). When mapping the findings from 2023 and 2016, it is evident that SAHRIS Sites 131106, 130196 and 130198 (2016) overlap with Observations 004, 010 and 009 (2023) respectively. As such, no further mitigation of these sites is required and the recommendations made in 2016 for these sites (Table 1) are no longer applicable and no further walkdown of the alignment is required.

In 2016, Fourie identified a significant MSA site located along a low ridge which consists of SAHRIS Sites 45516, 45517, 45519, 45520, 45521, 45522, 45525, 45528 and 45529, for which sites 45521 and 45529 fall within both proposed grid alignment alternatives. Based on the information available, an area of high archaeological sensitivity has been identified in Figure 8 below. In order to ensure that no impact to this significant site takes place, it is recommended that a no development buffer of 50m is implemented around sites 45521 and 45529, and the area of high archaeological sensitivity indicated in Figure 8 below is excluded from the development layout.

6. CONCLUSION AND RECOMMENDATIONS

The survey proceeded with some constraints and limitations, yet the project area was comprehensively surveyed for heritage resources. The majority heritage resources identified relate to the historic farm occupation of this area and are considered to be Not Conservation-Worthy. Previous assessments in this area have identified some significant archaeological heritage resources that are located within the proposed grid alignments. Recommendations in this regard are made below.

Recommendations

There is no objection to the proposed development from an archaeological perspective on condition that:

- A no development buffer of 50m is implemented around sites 45521 and 45529 and the area identified as archaeologically sensitive in Figure 8 below is excluded from the development layout
- Should any buried archaeological resources or human remains or burials be uncovered during the course of development activities, work must cease in the vicinity of these finds. The South African Heritage Resources Agency (SAHRA) must be contacted immediately in order to determine an appropriate way forward.



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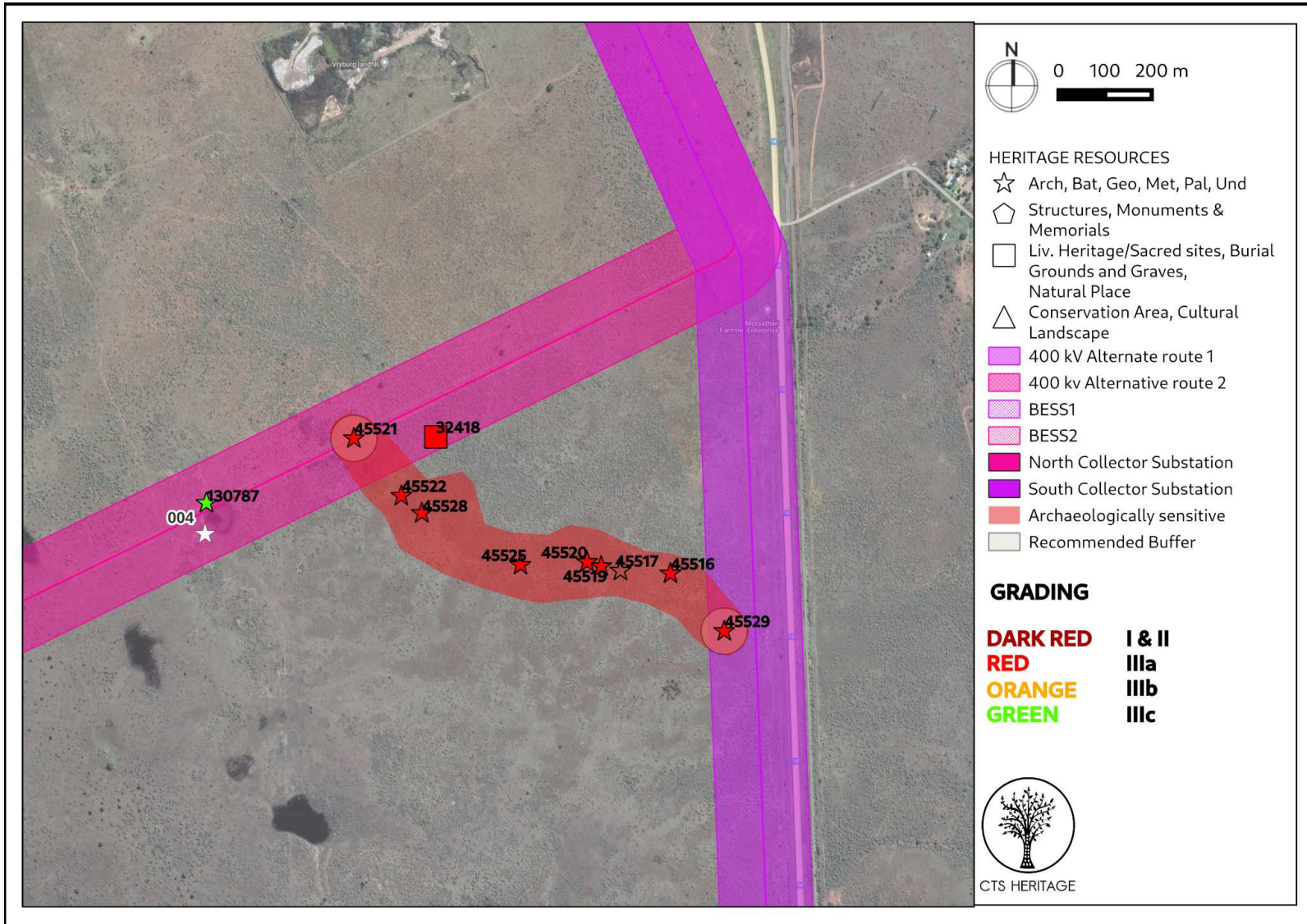


Figure 8: Map of recommended Mitigation measures



7. REFERENCES

Heritage Impact Assessments				
Nid	Report Type	Author/s	Date	Title
4265	HIA Phase 1	David Morris	01/04/2014	Appendix D3 Vryburg WWTW Heritage Specialist Report
6471	HIA Phase 1	Johnny Van Schalkwyk	31/08/2014	BASIC HERITAGE ASSESSMENT FOR THE PROPOSED MOOKODI 132KV PHASE 2 POWER LINES DEVELOPMENT, NORTH WEST PROVINCE
9051	HIA Phase 1	Johnny Van Schalkwyk		Cultural heritage Impact assessment for the Development of the Proposed Khubu Solar Power Plant in the Portion 5 of the Farm CHampions Kloof 731, Vryburg Region, North West Province
9055	HIA Phase 1		31/01/2016	Cultural heritage impact assessment for THE DEVELOPMENT OF THE PROPOSED PROTEA SOLAR POWER PLANT ON A PORTION OF THE FARM HARTSBOOM 734, VRYBURG REGION, NORTH WEST PROVINCE
9708	HIA Phase 1	Wouter Fourie	26/05/2016	75MW SOLAR PHOTOVOLTAIC (PV) ENERGY FACILITY SENDAWO SOLAR 1 Heritage Impact Assessment
9720	HIA Phase 1	Wouter Fourie	26/05/2016	75MW SOLAR PHOTOVOLTAIC (PV) ENERGY FACILITY SENDAWO SOLAR 2 Heritage Impact Assessment
9721	HIA Phase 1	Wouter Fourie	26/05/2016	75MW SOLAR PHOTOVOLTAIC (PV) ENERGY FACILITY SENDAWO SOLAR 3 Heritage Impact Assessment
9722	HIA Phase 1	Wouter Fourie	19/05/2016	SENDAWO POWERLINE ALTERNATIVES SENDAWO PROJECTS Heritage Impact Assessment
9730	PIA Phase 1	John Almond	07/01/2013	Palaeontological Heritage Assessment: Combined Desktop & Field-based Study Proposed PV Solar Facility on a portion of the farm Waterloo 992 near Vryburg, Naldi Local Municipality, North West Province
9755	AIA Phase 1	Lloyd Rossouw	04/11/2016	Phase 1 Archaeological Impact Assessment of two borrow pit areas on Farm 506IN near Vryburg, Northwest Province.
10095	HIA Phase 1	Stefan de Kock	15/09/2016	PROPOSED DEVELOPMENT OF THE AMDA DELTA PV (SOLAR ENERGY FACILITY) ON REMAINING EXTENT OF THE FARM KLONDIKE NO 670, AND OVERHEAD POWER LINE GRID CONNECTION TO THE MOOKODI MTS SUB-STATION ACROSS THE REMAINDER OF ERF 506 AND REMAINDER OF THE FARM ROSENDAL 6
10096	HIA Phase 1	Stefan de Kock	15/09/2016	PROPOSED DEVELOPMENT OF THE AMDA ECHO PV (SOLAR ENERGY FACILITY) ON REMAINING EXTENT OF THE FARM KLONDIKE NO 670, AND OVERHEAD POWER LINE GRID CONNECTION TO THE MOOKODI MTS SUB-STATION ACROSS THE REMAINDER OF ERF 506 AND REMAINDER OF THE FARM ROSENDAL 67
10098	HIA Phase 1	Stefan de Kock	15/09/2016	PROPOSED DEVELOPMENT OF THE AMDA FOXTROT PV (SOLAR ENERGY FACILITY) ON REMAINING EXTENT OF THE FARM KLONDIKE NO 670, AND OVERHEAD POWER LINE GRID CONNECTION TO THE MOOKODI MTS SUB-STATION ACROSS THE REMAINDER OF ERF 506 AND REMAINDER OF



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THE FARM ROSENDAL				
1714	HIA Phase 1	Johnny Van Schalkwyk	06/03/2013	Mookodi Integration Project Phase 2 - Heritage Report - Basic Assessment
9054	HIA Phase 1	Johnny Van Schalkwyk		Cultural heritage Impact assessment for The Development of the proposed Meerkat Solar Power Plant on a portion of the farm Vyflings Pan 598IN, Vryburg Region, North West Province
1714	HIA Phase 1	Johnny Van Schalkwyk	06/03/2013	Mookodi Integration Project Phase 2 - Heritage Report - Basic Assessment
9755	AIA Phase 1	Lloyd Rossouw	04/11/2016	Phase 1 Archaeological Impact Assessment of two borrow pit areas on Farm 506IN near Vryburg, Northwest Province.
7952	AIA Phase 1B	Neels Kruger	23/09/2015	ADDITIONAL ARCHAEOLOGICAL IMPACT STUDY FOR THE PROPOSED CAROCRAFT SOLAR PARK, NALEDI LOCAL MUNICIPALITY, BOPHIRIMA DISTRICT MUNICIPALITY, NORTH WEST PROVINCE
9050		Johnny Van Schalkwyk	29/01/2016	Cultural heritage impact assessment for THE DEVELOPMENT OF THE PROPOSED GAMMA SOLAR POWER PLANT ON PORTION 4 OF THE FARM CHAMPIONS KLOOF 731, VRYBURG REGION, NORTH WEST PROVINCE
1714	HIA Phase 1	Johnny Van Schalkwyk	06/03/2013	Mookodi Integration Project Phase 2 - Heritage Report - Basic Assessment