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**A PHASE 1 HERITAGE IMPACT ASSESSMENT & REPORT FOR THE
PROPOSED BOJATING SOLAR PV FACILITY & TRANSMISSION LINE
LOCATED CLOSE TO BOJATING VILLAGE IN THE NORTHWEST PROVINCE
& SOUTH OF NORTHAM IN THE LIMPOPO PROVINCE**

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REPORT: **APAC022/101**

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SUMMARY

APelser Archaeological Consulting (APAC) was appointed by EXM Environmental Advisory (Pty) Ltd to conduct a Phase 1 Heritage Impact Assessment for the proposed Bojating Solar PV Facility & related Transmission Line. The study & proposed development area is located near the village of Bojating in the North West Province, southeast of Ga-Ramakoka (North West) and south of Northam in the Limpopo Province.

The literature review indicates that there are some cultural heritage (archaeological & historical) sites and features in the larger geographical area within which the study area falls. However, no sites, features, or material of cultural heritage (archaeological and/or historical) origin & significance were identified and recorded in the study and/or the proposed development area during the October 2022 field assessment. This report discusses the results of both the background literature research and physical assessment and provides recommendations on the way forward.

From a Cultural Heritage point of view, it was determined that the proposed Bojating Solar PV & related Transmission Line Development should continue provided that the recommendations made in the report be taken into consideration.

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1. INTRODUCTION

APelser Archaeological Consulting (APAC) was appointed by EXM Environmental Advisory (Pty) Ltd to conduct a Phase 1 Heritage Impact Assessment for the proposed Bojating Solar PV Facility & related Transmission Line. The study & proposed development area is located near the village of Bojating in the North West Province, southeast of Ga-Ramakoka (North West) and south of Northam in the Limpopo Province.

The focus of the Heritage Impact Assessment was within the location and boundaries of the study & development area as indicated by the client.

The background literature research indicates that there are some cultural heritage (archaeological & historical) sites and features in the larger geographical area within which the study area falls. However, there are no sites, features, or material of cultural heritage (archaeological and/or historical) origin & significance that were identified and recorded in the study for the proposed development area during the October 2022 field assessment. A representative of the Bojating Traditional Authority accompanied the Heritage Specialist to the area during part of the assessment and also indicated that to their knowledge there were no sites of cultural heritage origin or significance situated here.

2. TERMS OF REFERENCE

The Terms of Reference for the study was to:

1. Identify all objects, sites, occurrences and structures of an archaeological or historical nature (cultural heritage sites) located on the portion of land that will be impacted upon by the proposed development;
2. Assess the significance of the cultural resources in terms of their archaeological, historical, scientific, social, religious, aesthetic and tourism value;
3. Describe the possible impact of the proposed development on these cultural remains, according to a standard set of conventions;
4. Propose suitable mitigation measures to minimize possible negative impacts on the cultural resources;
5. Review applicable legislative requirements;

3. LEGISLATIVE REQUIREMENTS

Aspects are dealt with mainly in. The National Heritage Resources Act (Act 25 of 1999) and the National Environmental Management Act (Act 107 of 1998) are the two main legislations concerning the conservation of cultural resources, used as guidelines when conducting the Heritage Impact Assessment.

3.1. The National Heritage Resources Act (Act 25 of 1999)

According to the National Heritage Resources Act (Act 25 of 1999) (NHRA), the following is protected as cultural heritage resources:

- a. Archaeological artifacts, structures, and sites older than 100 years
- b. Ethnographic art objects (e.g. prehistoric rock art) and ethnography
- c. Objects of decorative and visual arts
- d. Military objects, structures, and sites older than 75 years
- e. Historical objects, structures, and sites older than 60 years
- f. Proclaimed heritage sites
- g. Grave yards and graves older than 60 years
- h. Meteorites and fossils
- i. Objects, structures and sites of scientific or technological value.

The National Estate includes the following:

- a. Places, buildings, structures, and equipment of cultural significance
- b. Places to which oral traditions are attached or which are associated with living heritage
- c. Historical settlements and townscapes
- d. Landscapes and features of cultural significance
- e. Geological sites of scientific or cultural importance
- f. Sites of Archaeological and paleontological importance
- g. Graves and burial grounds
- h. Sites of significance relating to the history of slavery
- i. Movable objects (e.g. archaeological, paleontological, meteorites, geological specimens, military, ethnographic, books etc.)

The Heritage Impact Assessment (HIA) process is done to determine whether there are any heritage resources located within the area to be developed as well as to determine the possible impacts of the proposed development. An Archaeological Impact Assessment (AIA) only looks at archaeological resources, such as material remains of human life or activities which are at least 100 years of age, and which are of archaeological interest. A HIA must be done under the following circumstances:

- a. The construction of a linear development (road, wall, power line, canal etc.) exceeding 300m in length
- b. The construction of a bridge or similar structure exceeding 50m in length
- c. Any development or other activity that will change the character of a site and exceed 5 000m² or involve three or more existing erven or subdivisions thereof
- d. Re-zoning of a site exceeding 10 000m²
- e. Any other category provided for in the regulations of SAHRA or a provincial heritage authority

Structures

Section 34(1) of the Act states that no person may demolish any structure or part thereof that is older than 60 years without a permit issued by the relevant provincial heritage resources authority.

A structure refers to any building, works, device or other facility made by people, and which is fixed to land, and includes any fixtures, fittings and equipment associated therewith.

To alter means any action taken that affects the structure, appearance or physical properties of a place or object, whether by way of structural or other works, by painting, plastering or the decoration or any other means.

Archaeology, palaeontology, and Meteorites

Section 35(4) of the Act deals with archaeology, palaeontology, and meteorites. The Act states that no person may, without a permit issued by the responsible heritage resources authority (national or provincial)

- a. destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or paleontological site or any meteorite;
- b. destroy, damage, excavate, remove from its original position, collect or own any archaeological or paleontological material or object or any meteorite;
- c. trade in, sell for private gain, export or attempt to export from the Republic any category of archaeological or paleontological material or object, or any meteorite; or
- d. bring onto or use at an archaeological or paleontological site any excavation equipment or any equipment that assists in the detection or recovery of metals or archaeological and paleontological material or objects, or use such equipment for the recovery of meteorites.
- e. alter or demolish any structure or part of a structure which is older than 60 years as protected.

The above mentioned may only be disturbed or moved by an archaeologist, after receiving a permit from the South African Heritage Resources Agency (SAHRA). In order to demolish such a site or structure, a destruction permit from SAHRA will also be needed.

Human remains

Graves and burial grounds are divided into the following:

- a. ancestral graves
- b. royal graves and graves of traditional leaders
- c. graves of victims of conflict
- d. graves designated by the Minister
- e. historical graves and cemeteries
- f. human remains

In terms of Section 36(3) of the National Heritage Resources Act, no person may, without a permit issued by the relevant heritage resources authority:

- i. destroy, damage, alter, exhume or remove from its original position or otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such graves;
- ii. destroy, damage, alter, exhume, or remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority; or
- iii. bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) any excavation, or any equipment which assists in the detection or recovery of metals.

Human remains that are less than 60 years old are subject to provisions of the Human Tissue Act (Act 65 of 1983) and to local regulations. Exhumation of graves must conform to the standards set out in the **Ordinance on Excavations (Ordinance no. 12 of 1980)** (replacing the old Transvaal Ordinance no. 7 of 1925).

Permission must also be gained from the descendants (where known), the National Department of Health, Provincial Department of Health, Premier of the Province, and local police. Furthermore, permission must also be gained from the various landowners (i.e., where the graves are located and where they are to be relocated to) before exhumation can take place.

Human remains can only be handled by a registered undertaker, or an institution declared under the **Human Tissues Act (Act 65 of 1983 as amended)**.

3.2. The National Environmental Management Act (No. 107 of 1998)

This Act states that a survey and evaluation of cultural resources must be done in areas where development projects, that will change the face of the environment, will be undertaken. The impact of the development on these resources should be determined and proposals for the mitigation thereof are made.

Environmental management should also take the cultural and social needs of people into account. Any disturbance of landscapes and sites that constitute the nation's cultural heritage should be avoided as far as possible and where this is not possible the disturbance should be minimized and remedied.

The specific requirements that specialist studies and reports must adhere to are contained in Appendix 6 of the EIA Regulations.

4. METHODOLOGY

4.1. Review of literature

A review of available literature was undertaken in order to place the development area in an archaeological and historical context. The sources utilized in this regard are indicated in the bibliography. These include Bergh (1999), Huffman (2007) & Lombard et.al (2012).

4.2. Field survey

The field assessment component of the study was conducted on the 14th of October 2022 according to generally accepted HIA practices and aimed at locating all possible objects, sites, and features of heritage significance in the area of the proposed development. The location/position of all sites, features and objects is determined by means of a Global Positioning System (GPS) where possible, while detail photographs are also taken where needed. Where possible grids were walked in the area where development is proposed.

4.3. Documentation

All sites, objects, features, and structures identified are documented according to a general set of minimum standards. Co-ordinates of individual localities are determined by means of the Global Positioning System (GPS). The information is added to the description in order to facilitate the identification of each locality.

5. PROJECT DESCRIPTION

Bojating Village Solar Project Company (Pty) Ltd (part of the Baphalane Tribal Authority) proposes to develop a Solar Photovoltaic ("PV") Plant near Bojating (hereafter referred to as the Baphalane Solar Farm), 45 km north west of Rustenburg in the North-West province. The proposed Baphalane Solar Farm will be located just north of the Bojating Village on the Farm Elandsfontein 69 JQ (Dampplaas) in the Moses Kotane Local Municipality within the Bojanala Platinum District Municipality. The development will cover approximately 300 hectares of undeveloped (greenfield) land.

The facility will entail the installation of Solar PV Panels (approximately 200,000 modules) on a single-axis tracking structure with the potential to generate approximately 100 Megawatts ("MW") of electricity. Associated support infrastructure on site will include the following:

- Operations & Maintenance (O&M) building, including a control room;
- Water supply borehole and water storage tanks;
- Transformer Substation;
- A battery energy storage system (BESS) with a capacity of up to 400MWh;

- Stormwater infrastructure;
- Security fencing and security guard station;
- Staff facilities;
- Access and internal roads;
- Electrical reticulation network; and
- 132kV electricity transmission line.

6. DESCRIPTION OF THE AREA

The study & proposed development area is located close to the village of Bojating in the Northwest Province, south-east of Ga-Ramakoka and south of Northam in the Limpopo Province.

The topography of the study & proposed development area is for the most part relatively flat and open, although there are some low rocky outcrops in places. During the field assessment the vegetation (tree/shrubs/bush and grass cover) was very dense in some sections, hampering visibility on the ground. Some sections were more open as a result of erosion. Large-scale developments (such as urban residential) have not occurred in the area (except for the Bojating Village settlement close by), with agriculture (mostly livestock farming) being the most impactful activity in historical and recent times. Other impacts include the existing Eskom Powerlines/Pylons and servitudes, telephone lines and servitudes and some dirt roads and tracks. The informal dumping of household refuse and building rubble also occurs in sections.

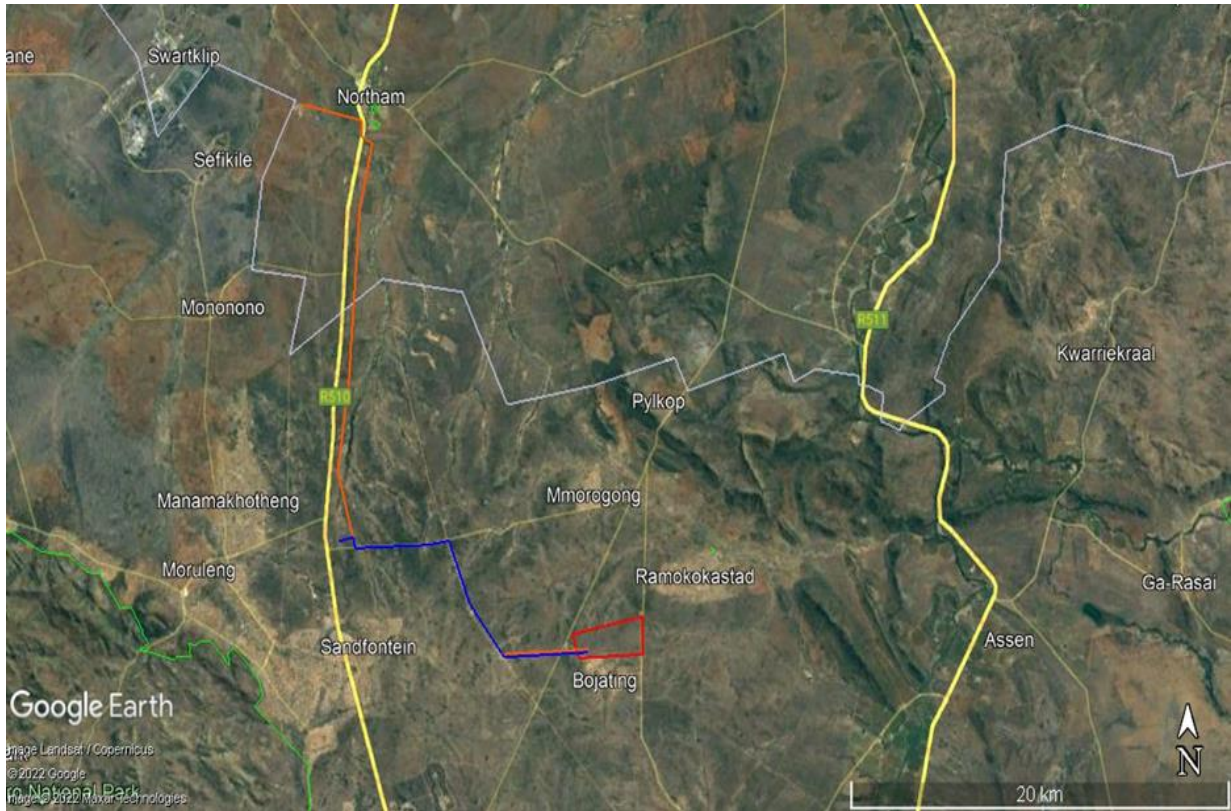


Figure 1: General location of the study & proposed development area (Google Earth 2022).

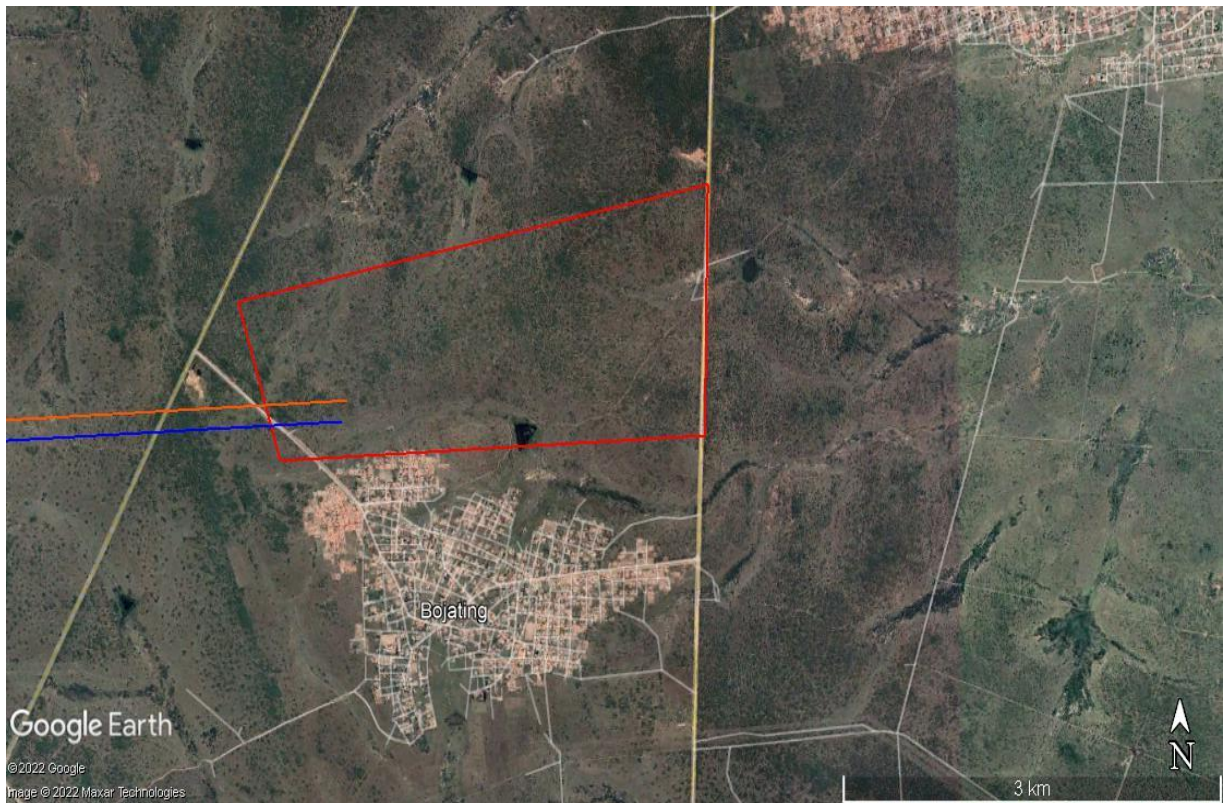


Figure 2: Closer view showing the Bojating PV Facility footprint (red polygon) close to Bojating Village, as well as a section of the Transmission Line (Google Earth 2022).

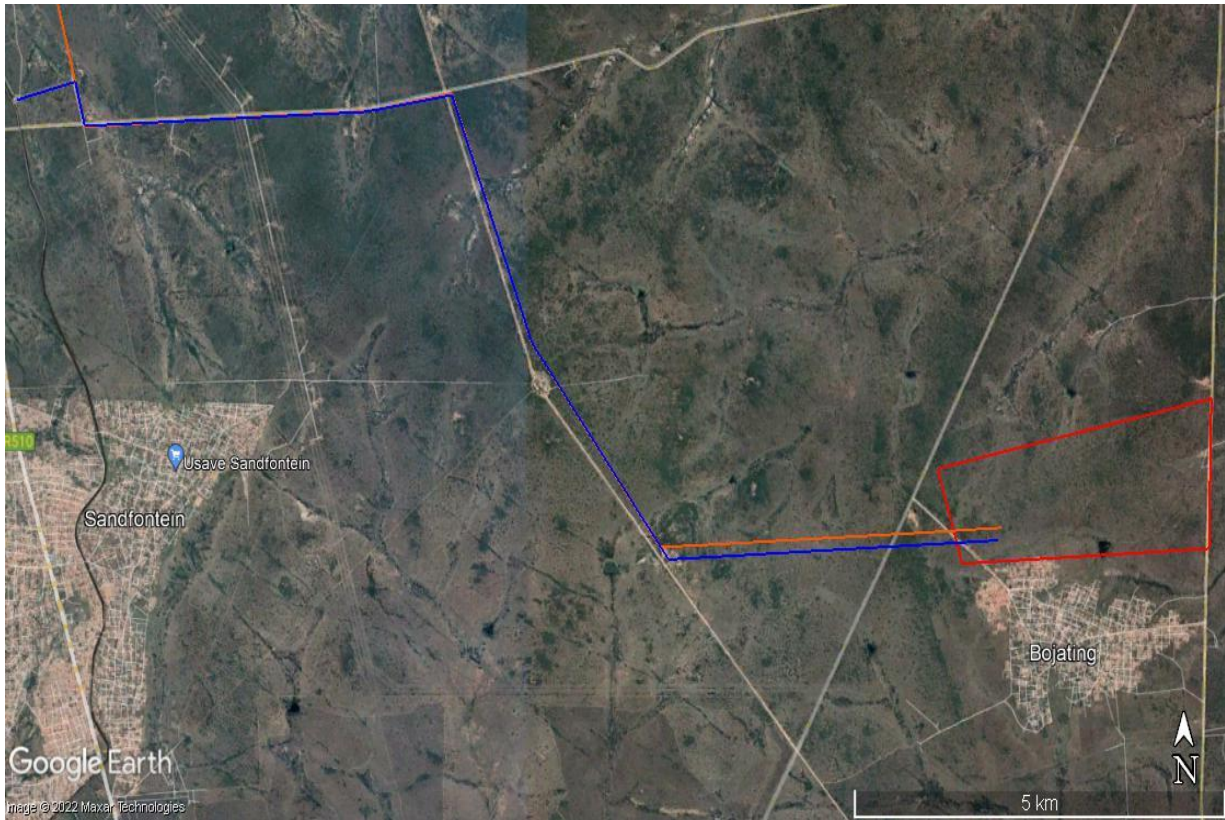


Figure 3: View of 1st section of the Transmission Lines. Most of the line route follows close to existing lines and roads (Google Earth 2022).

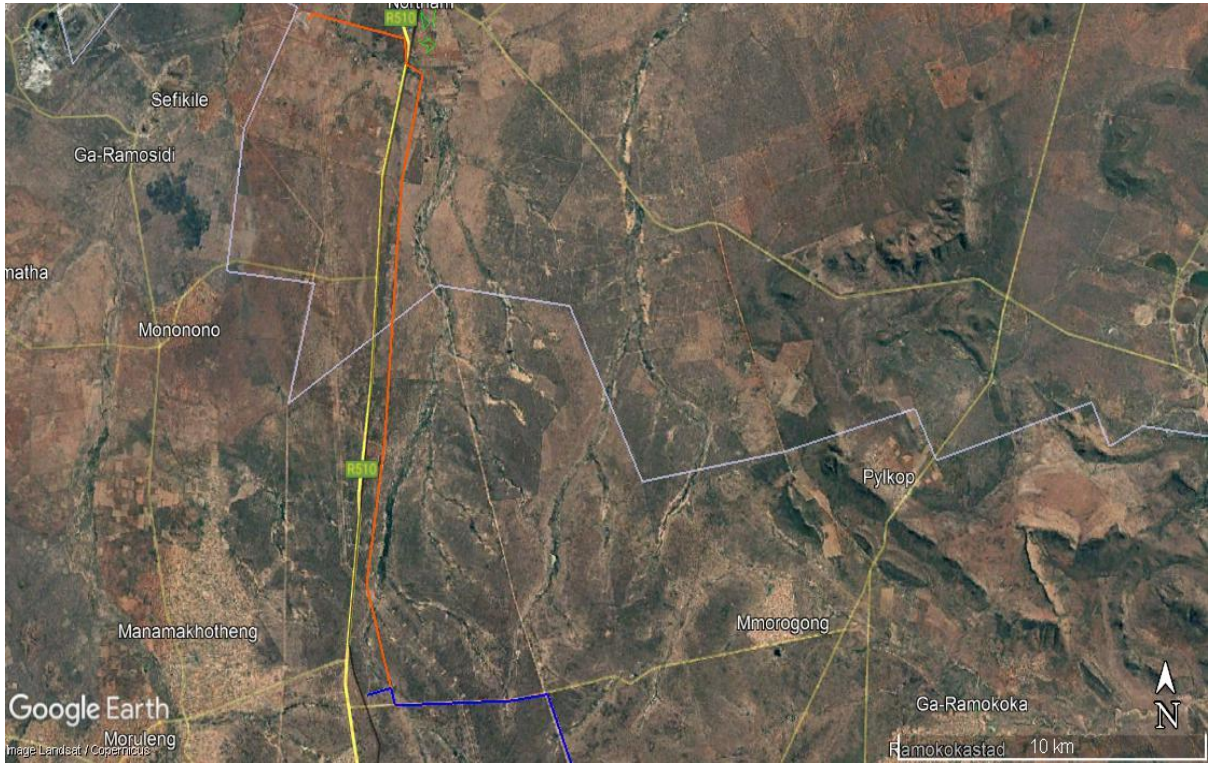


Figure 4: The Transmission Line (in blue) links up with an existing line (yellow) to Northam at the Dinaledi Substation (Google Earth 2022).

7. DISCUSSION

7.1 Stone age

The Stone Age is the period in human history when lithic (stone) material was mainly used to produce tools. In South Africa the Stone Age can be divided into three periods as listed below. It is important to note that dates are relative and only provide a broad framework for interpretation. A basic sequence for the South African Stone Age (Lombard et.al 2012) is as follows:

- Earlier Stone Age (ESA) up to 2 million – more than 200 000 years ago
- Middle Stone Age (MSA) less than 300 000 – 20 000 years ago
- Later Stone Age (LSA) 40 000 years ago – 2000 years ago

It should also be noted that these dates are not a neat fit because of variability and overlapping ages between sites (Lombard et.al 2012: 125).

No Stone Age sites (including rock art) are known to occur in the immediate study area. The closest known Stone Age sites (Early to Later Stone Age) are found close to Rooiberg and Thabazimbi at sites called Blaauwbank & Olieboomspoor (Bergh 1999: 5). During previous assessments in the larger area by the author of this report some individual tools and small scatters of material were found to the south and west of the study and development area (Pelser et. Al. 2010: 15).

No Stone Age sites or material were identified in the study area during the October 2022 field assessment. If any were to be present they would most likely be individual stone tools or low density scatters in open-air surface scatters around the area.

7.2 Iron age

The Iron Age is the name given to the period of human history when metal was mainly used to produce metal artifacts. In South Africa it can be divided in two separate phases (Bergh1999: 96-98), namely:

- Early Iron Age (EIA) 200 – 1000 A.D
- Late Iron Age (LIA) 1000 – 1850 A.D.

Huffman (2007: xiii) however indicates that a Middle Iron Age should be included. His dates, which now seem to be widely accepted in archaeological circles, are:

- Early Iron Age (EIA) 250 – 900 A.D.
- Middle Iron Age (MIA) 900 – 1300 A.D.
- Late Iron Age (LIA) 1300 – 1840 A.D.

There are no known Iron Age sites (EIA or LIA) in the immediate study area, although a large number of EIA to LIA sites are known to exist in the larger geographical landscape in which

the study area falls. The closest and best known Iron Age site is located at Rooiberg near Thabazimbi to the north of the study area (Bergh 1999: 7).

The closest Early Iron Age site is located at Broederstroom near Brits (Bergh 1999: 6). In a band stretching from Pretoria to Brits as many as 125 Late Iron Age sites have been identified and many more between Brits and Rustenburg (Bergh 1999: 7). Tswana chiefdoms flourished in the area during AD 1600 to 1840 (Pistorius 2009: 18). Late Iron Age sites are also known between Brits and Thabazimbi (Bergh 1999: 7).

At the beginning of the 19th century different Tswana groups settled in the larger area. It includes the Kwena, Po and Kgatla. During the so-called difaqane (period of war or stress) they fled to the north-west and the Ndebele of Mzilikazi settled in around the Brits area and further north between 1827 and 1832 (Bergh 1999: 10-11, 106-107, 111; Pistorius 2009: 18-19).

Tom Huffman's research work shows that Iron Age sites, features or material could possibly be found in the area (based on pottery analysis combined with radiocarbon dates from related sites). This could include the so-called Moor Park facies of the Urewe Tradition dating to between AD1350 and AD1750 (Huffman 2007: 159); Uitkomst facies of the same tradition dating to between AD1650 and AD1820 (p.171); Rooiberg facies of Urewe dating to between AD1650 and AD1750 (p.175); the Oilfantspoort & Madikwe facies of the Urewe tradition both dating to between AD1500 and AD1700 (p.191 & 199); the Buispoort facies of Urewe dating to between AD1700 and AD1840 (p.203); the Diamant facies of the Kalundu Tradition dating to between AD750 & AD1000 (p.223) and finally the Eiland facies of the same tradition dating to between AD1000 and AD1300 (Huffman 2007: 227).

No Iron Age sites, features or material were identified in the area during the October 2022 assessment. The author did record some Iron Age material (scatters of undecorated pottery) a few kilometers to the south-west of the study and development area during previous assessments (Pelser et.al. 2010: 16).

7.3 Historic age

The historical age started with the first recorded oral histories in the area. It includes people moving into the area that were able to read and write. The first European group to pass close by the area were that of Cowan & Donovan in 1808, followed by Scoon & McLuckie in 1829, Hume & Scoon in 1835 and by the famous Dr. David Livingstone in 1847 (Bergh 1999: 12-14).

The information below was obtained from a HIA Report by Dr. Julius Pistorius done in 2013 for Samancor's proposed Mining Right Application for Portions of the farm Varkensvlei 403KQ and Nooitgedacht 406KQ near Northam (p.22—23):

"It is highly unlikely that the Project Area was occupied by Early Iron Age (EIA) Bantu-Negroid people who lived elsewhere in the Limpopo, Mpumalanga, KwaZulu-Natal and North-West Provinces of South Africa during the 3rd to 9th centuries AD. The earliest Iron

Age settlers who moved into the larger project area were Late Iron Age Sotho-speaking groups who belonged to the Moloko tradition. These Kgatla and Kwena communities are associated with stone walled settlements which date from AD1600 although earlier settlements, devoid of any stone walls, also probably occur in the region. Moloko sites have been recorded in Rooiberg, north of the Project Area, at the Pilanesberg and in Madibeng and Rustenburg further to the south where these sites are associated with kopjes and randjes. Iron Age settlements occur in the Ben Alberts Nature Reserve and elsewhere in the Thabazimbi district.

The Rooiberg area is also renowned for early tin mining activities, possibly dating from the Late Iron Age. It seems as if large quantities of tin ore was mined from the Rooiberg and transported to an unknown destination. The abundance of iron ore in the area, particularly around Thabazimbi, also led to the smelting of these ores by local Late Iron Age people in order to manufacture products such as weapons (spears) and tools (hoes, axes, etc.).

The closest towns to the Project Area are Thabazimbi and Northam. Thabazimbi's name is derived from the Tswana words for 'mountain of iron'. This was due to the discovery of the exceptionally rich iron ore deposits at Vliegpoort ('defile of flies') by the geologists J.H. Williams in 1919. The South African government bought the ore body and production for the Iscor Iron Ore mine in 1928. The mine started with its operations in 1931 A branch railway line was built from Northam to Thabazimbi on the Pretoria-Middelwit line. The town of Thabazimbi was laid out on the farm Kwaggashoek and proclaimed 23 on 4 May 1953. Millions of tons of iron ore are annually mined and hauled by train to Vanderbijlpark and New Castle.

The town of Northam was laid out by E.H. Fulls on the farm Leeukoppie and formally proclaimed in 1946. This farm together with several others was owned by H. Herd who had purchased the properties from British soldiers to whom they have been allocated after the Anglo Boer War. Herd was allowed to choose the name for the new village which he called Northam after the village Northam in Devonshire, England".

No recent historical sites and features were identified and recorded in the study & development area in October 2022.

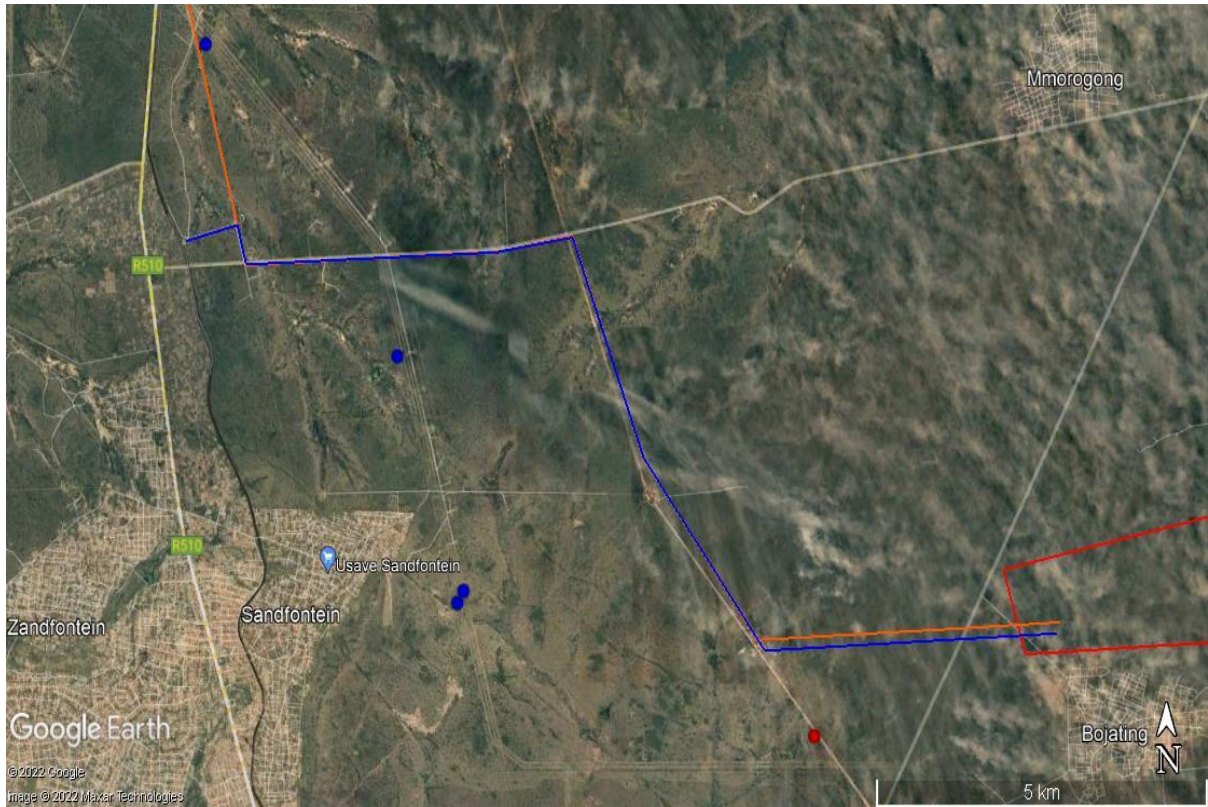


Figure 5: The location of Stone Age & Iron Age sites found during previous assessments in the larger area by the author of this report (Google Earth 2022)

Results of the October 2022 Field Assessment

During the October 2022 field assessment, no sites, features, or material of any cultural heritage (archaeological and/or historical) origin or significance was found in the study and development area footprint. Although the main focus of the fieldwork was the Bojating PV Facility and related infrastructure footprint area, the proposed new Transmission line that will connect the PV Facility to the national electrical grid was also looked at. Large sections of this line follow close to existing roads and servitudes and run parallel to existing Eskom Powerlines that run to Northam and the Dinaledi Substation in Northam. As a result, these areas have been fairly extensively impacted in the past due to the development of these lines. Access to sections of these lines was also restricted. During earlier assessments of the Dinaledi-Spitskop Powerline (between Northam and Brits) by Pelsers large parts of the line was also covered and no major cultural heritage resources were identified other than those mentioned earlier.



Figure 6: General view of PV Facility area. Note the fairly open and flat nature of the area.



Figure 7: A number of dirt roads cross through the area. Note the fairly dense vegetation cover in the study area.



Figure 8: Although the vegetation cover was fairly dense during the assessment, there were sections that were more open and visibility on the ground was not severely hampered.



Figure 9: Very few rocky outcrops or ridges occur in the study area. This small outcrop occurs in the PV Facility footprint.



Figure 10: A soil dam in the PV facility area close to Bojating Village visible in the distance.



Figure 11: The dumping of building rubble and other refuse occurs in sections of the area.



Figure 12: More dumping of household refuse. Evidence of old agricultural fields (ploughing) is visible here.



Figure 13: The dense vegetation occurring in the sections of the area is clearly evident here.



Figure 14: A view of a section of the area where the new transmission line will link up with the PV Facility.

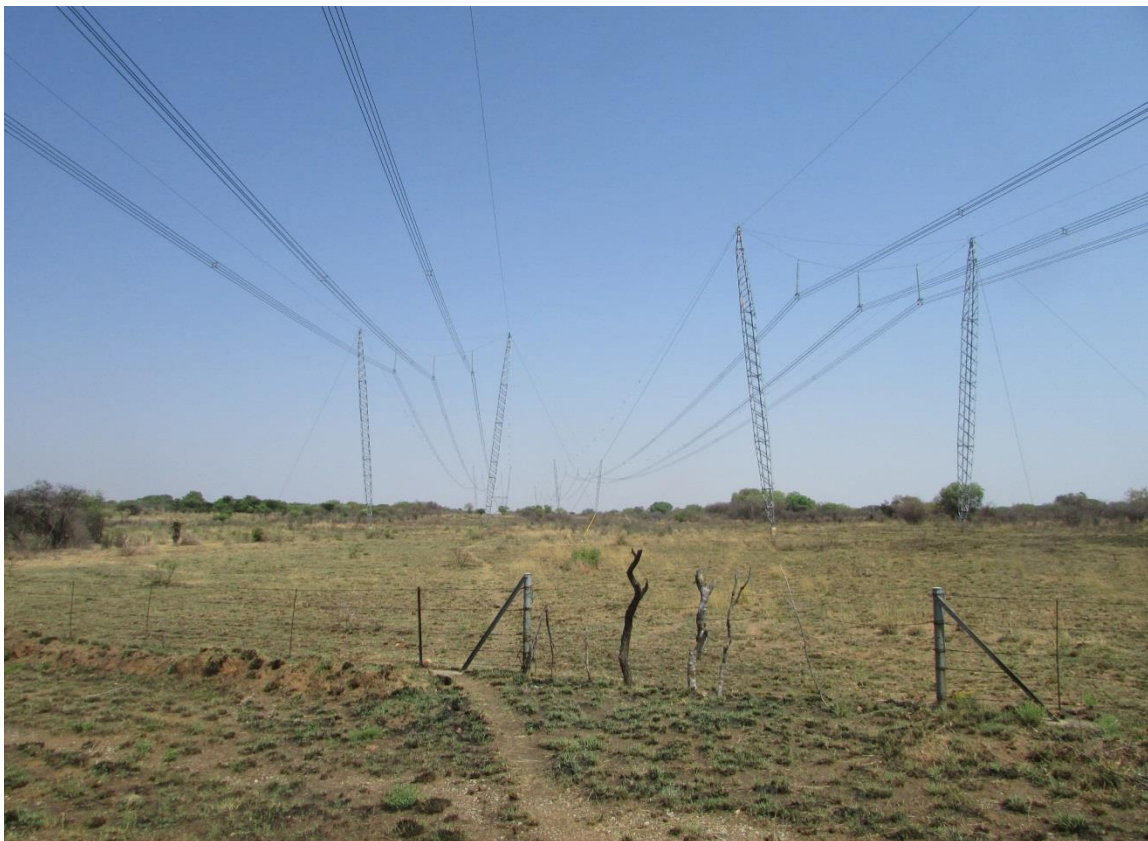


Figure 15: Existing Powerline corridor with which the new line will connect.



Figure 16: Another section of the existing line and general area where the new transmission line will run.



Figure 17: View of the road towards Ga-Ramakoka and the existing Eskom Powerline.



Figure 18: Existing ESKOM Line running close to the R510 towards Northam and with which the new transmission line will connect.



Figure 19: A view of a section of the line route running between Northam (along the R510) up the connection with the new transmission line close to Bojating Village and the PV Facility. Note the railway line as well.

Based on the desktop research and October 2022 field assessment it is clear that there are some cultural heritage sites and features present in the larger area close to the study & proposed development area footprint. Sites identified during previous assessments included mostly scatters of open-air surface Stone Age & later Iron Age pottery. None of the Stone Age sites contained dense scatters of material while no Iron Age stone-walled settlement remains were identified.

No sites, features or material of cultural heritage origin were identified in the area during the recent assessment. Although it is possible that sites could have been missed as a result of many factors, it is more likely that if any sites are to be found in the proposed new development area these would not be of any high significance. If any are to be found during the development of the Bojating PV Facility and Transmission Line care should be taken to avoid any possible negative impacts on these sites. A Heritage Specialist should then also be contacted to undertake a site visit to investigate the finds and to provide recommendations on the way forward.

It should also be noted that although all efforts are made to locate, identify and record all possible cultural heritage sites and features (including archaeological remains) in an area that there is always a possibility that some might have been missed as a result of grass cover and other factors.

Impact Assessment and Mitigation Measures

The significance of impacts is determined using the following criteria:

Probability: describes the likelihood of the impact actually occurring

- **Improbable:** the possibility of the impact occurring is very low, due to the circumstances, design or experience.
- **Probable:** there is a probability that the impact will occur to the extent that provision must be made therefore.
- **Highly probable:** it is most likely that the impact will occur at some stage of the development.
- **Definite:** the impact will take place regardless of any prevention plans and there can only be relied on mitigation measures or contingency plans to contain the effect.

Duration: the lifetime of the impact

- **Short Term:** the impact will either disappear with mitigation or will be mitigated through natural processes in a time span shorter than any of the phases.
- **Medium Term:** the impact will last up to the end of the phases, where after it will be negated.
- **Long Term:** the impact will last for the entire operational phase of the project but will be mitigated by direct human action or by natural processes thereafter.
- **Permanent:** the impact is non-transitory. Mitigation either by man or natural processes will not occur in such a way or in such a time span that the impact can be considered transient.

Scale: the physical and spatial size of the impact

- **Local:** the impacted area extends only as far as the activity, e.g. footprint
- **Site:** the impact could affect the whole or measurable portion of the abovementioned property.
- **Regional:** the impact could affect the area including the neighboring residential areas.

Magnitude/Severity: Does the impact destroy the environment, or alter its function

- **Low:** the impact alters the affected environment in such a way that natural processes are not affected.
- **Medium:** the affected environment is altered, but functions and processes continue in a modified way.
- **High:** function or process of the affected environment is disturbed to the extent where it temporarily or permanently ceases.

Significance: This is an indication of the importance of the impact in terms of both physical extent and time scale, and therefore indicates the level of mitigation required.

- **Negligible:** the impact is non-existent or unsubstantial and is of no or little importance to any stakeholder and can be ignored.
- **Low:** the impact is limited in extent, has low to medium intensity; whatever its probability of occurrence is, the impact will not have a material effect on the decision and is likely to require management intervention with increased costs.
- **Moderate:** the impact is of importance to one or more stakeholders, and its intensity will be medium or high; therefore, the impact may materially affect the decision, and management intervention will be required.
- **High:** The impact could render development options controversial or the project unacceptable if it cannot be reduced to acceptable levels; and/or the cost of management intervention will be a significant factor in mitigation.

The significance is calculated by combining the criteria in the following formula:

Sum (Duration, Scale, Magnitude) x Probability

S = Significance weighting; Sc = Scale; D = Duration; M = Magnitude; P = Probability

With no sites, features and material of cultural heritage origin and significance found in the area during the assessment, the current site layout provided will not impact any sites. The impact of the proposed development on recorded and known heritage sites is therefore deemed as Low.

Aspect	Description	Weight
Probability	Improbable	1
	Probable	2
	Highly Probable	4

	Definite	5
Duration	Short Term	1
	Medium Term	3
	Long Term	4
	Permanent	5
Scale	Local	1
	Site	2
	Regional	3
Magnitude/Severity	Low	2
	Medium	6
	High	8
Significance	Sum (Duration, Scale, Magnitude)	x Probability
	Negligible	≤20
	Low	>20≤40
	Moderate	>40≤60
	High	>60

Results: 1+1+2×1 = 4 i.e. ≤20

The impact of the proposed development on the recorded and known cultural heritage sites in the area is therefore deemed as Negligible based on the Impact Assessment criteria used. However, there is always a possibility of sites, features and material being missed as a result of various factors such as vegetation cover hampering visibility on the ground, as well as the often-subterranean nature of cultural heritage resources (including low stone-packed or unmarked graves). These factors need to be taken into consideration and it is therefore recommended that a Chance Finds Protocol be drafted and implemented for the proposed Bojating Solar PV Development.

7. CONCLUSIONS AND RECOMMENDATIONS

APelser Archaeological Consulting (APAC) was appointed by EXM Environmental Advisory (Pty) Ltd to conduct a Phase 1 Heritage Impact Assessment for the proposed Bojating Solar PV Facility & related Transmission Line. The study & proposed development area is located near the village of Bojating in the Northwest Province, southeast of Ga-Ramakoka (Northwest) and south of Northam in the Limpopo Province.

Background research indicates that there are some cultural heritage (archaeological & historical) sites and features in the larger geographical area close to the study & proposed development area footprint. Sites identified during previous assessments included mostly scatters of open-air surface Stone Age & later Iron Age pottery. None of the Stone Age sites

contained dense scatters of material while no Iron Age stone-walled settlement remains were identified. No sites, features or material of cultural heritage origin were identified in the area during the October 2022 field assessment. Although it is possible that sites could have been missed as a result of many factors, it is more likely that if any sites are to be found in the proposed new development area these would not be of any high significance. If any are to be found during the development of the Bojating PV Facility and Transmission Line care should be taken to avoid any possible negative impacts on these sites. A Heritage Specialist should then also be contacted to undertake a site visit to investigate the finds and to provide recommendations on the way forward.

From a Cultural Heritage point of view it can be concluded that the proposed Bojating Solar PV & related Transmission Line Development should be allowed to continue taking into consideration the recommendations provided above.

The often subterranean nature of cultural heritage resources (including low stone-packed or unmarked graves) should also be taken into consideration. Should any previously unknown or buried sites, features or material be uncovered during any development actions then an Archaeological expert should be contacted to investigate and provide recommendations on the way forward.

8. REFERENCES

General and Closer views of study & development area location, footprint & Previous Sites recorded: Google Earth 2022.

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APPENDIX A: DEFINITION OF TERMS:

Site: A large place with extensive structures and related cultural objects. It can also be a large assemblage of cultural artifacts, found on a single location.

Structure: A permanent building found in isolation or which forms a site in conjunction with other structures.

Feature: A coincidental find of movable cultural objects.

Object: Artifact (cultural object).

(Also see Knudson 1978: 20).

APPENDIX B: DEFINITION/ STATEMENT OF HERITAGE SIGNIFICANCE

Historic value: Important in the community or pattern of history or has an association with the life or work of a person, group or organization of importance in history.

Aesthetic value: Important in exhibiting particular aesthetic characteristics valued by a community or cultural group.

Scientific value: Potential to yield information that will contribute to an understanding of natural or cultural history or is important in demonstrating a high degree of creative or technical achievement of a particular period

Social value: Have a strong or special association with a particular community or cultural group for social, cultural or spiritual reasons.

Rarity: Does it possess uncommon, rare or endangered aspects of natural or cultural heritage.

Representivity: Important in demonstrating the principal characteristics of a particular class of natural or cultural places or object or a range of landscapes or environments characteristic of its class or of human activities (including way of life, philosophy, custom, process, land-use, function, design or technique) in the environment of the nation, province region or locality.

APPENDIX C: SIGNIFICANCE AND FIELD RATING:

Cultural significance:

- Low: A cultural object being found out of context, not being part of a site or without any related feature/structure in its surroundings.
- Medium: Any site, structure or feature being regarded less important due to a number of factors, such as date and frequency. Also any important object found out of context.
- High: Any site, structure or feature regarded as important because of its age or uniqueness. Graves are always categorized as of a high importance. Also any important object found within a specific context.

Heritage significance:

- Grade I: Heritage resources with exceptional qualities to the extent that they are of national significance
- Grade II: Heritage resources with qualities giving it provincial or regional importance although it may form part of the national estate
- Grade III: Other heritage resources of local importance and therefore worthy of conservation

Field ratings:

- i. National Grade I significance: should be managed as part of the national estate
- ii. Provincial Grade II significance: should be managed as part of the provincial estate
- iii. Local Grade IIIA: should be included in the heritage register and not be mitigated (high significance)
- iv. Local Grade IIIB: should be included in the heritage register and may be mitigated (high/medium significance)
- v. General protection A (IV A): site should be mitigated before destruction (high/medium significance)
- vi. General protection B (IV B): site should be recorded before destruction (medium significance)
- vii. General protection C (IV C): phase 1 is seen as sufficient recording and it may be demolished (low significance)

APPENDIX D: PROTECTION OF HERITAGE RESOURCES:

Formal protection:

National heritage sites and Provincial heritage sites – Grade I and II

Protected areas - An area surrounding a heritage site

Provisional protection – For a maximum period of two years

Heritage registers – Listing Grades II and III

Heritage areas – Areas with more than one heritage site included

Heritage objects – e.g. Archaeological, paleontological, meteorites, geological specimens, visual art, military, numismatic, books, etc.

General protection:

Objects protected by the laws of foreign states

Structures – Older than 60 years

Archaeology, paleontology and meteorites

Burial grounds and graves

Public monuments and memorials

APPENDIX E: HERITAGE IMPACT ASSESSMENT PHASES

1. Pre-assessment or Scoping Phase – Establishment of the scope of the project and terms of reference.
2. Baseline Assessment – Establishment of a broad framework of the potential heritage of an area.
3. Phase I Impact Assessment – Identifying sites, assess their significance, make comments on the impact of the development and makes recommendations for mitigation or conservation.
4. Letter of recommendation for exemption – If there is no likelihood that any sites will be impacted.
5. Phase II Mitigation or Rescue – Planning for the protection of significant sites or sampling through excavation or collection (after receiving a permit) of sites that may be lost.
6. Phase III Management Plan – For rare cases where sites are so important that development cannot be allowed.