HERITAGE ASSESSMENT
PROPOSED WIND ENERGY FACILITY AND RELATED INFRASTRUCTURE, STRUISBULT: (FARM 103, PORTIONS 4 AND 7), COPPERTON, PRIESKA,

March 2011

View facing North East

TABLE OF CONTENTS:

Submitted to Heritage Northern Cape by Melanie Attwell and Associates on behalf of Aurecon (Pty) Ltd, as a Specialist Heritage Report in terms of Section 38(8), National Heritage Resources Act, and (Act 25 of 1999). DEA Ref 12/12/20/2099

Melanie Attwell and Associates 2 Caxton Close Oakridge 7806 Cape Town South Africa ph 021 7150330

SUMMARY

This Heritage Report reviews the affected site for the proposed wind energy facility on the farm Struisbult (Portions 4 and 7), 3kms outside Copperton, Prieska, Northern Cape. This Heritage Statement attached to the notification of Intent to Develop is intended to apprise Heritage Northern Cape of the presence or otherwise of built heritage resources and significant cultural landscapes on the affected sites, that might be adversely affected by the construction of the proposed photovoltaic energy facility and related infrastructure.

The report found that the site contained no heritage constraints comprising significant heritage resources, buildings older than 60 years and provincial heritage sites; or significant cultural landscapes that would be adversely affected by the proposed development. The site under study contained no buildings over 60 years nor for that matter any buildings at all. The area which is used for stock and sheep farming and is attached to the farm Struisbult was identified as sparse generally waterless and not settled.

The general environment around Copperton includes the town itself which is partially empty, the disused mine containing some structures associated with mining activity, the Alkantpan Firing range, a division of Armscor Defense Institutes (Pty) Ltd and an airstrip which is in use .

. The town of Copperton nearly remains but the urban fabric - consisting of low density grid plan housing is contemporary with the mine and has little to no heritage significance. Some of the housing stock is derelict damaged and abandoned. Copperton contains no buildings or sites of heritage significance nor any buildings older than 60 years.

The landscape is flat with long extensive views predominated by low horizons and an expansive skyline. It is characterized by a sense of remoteness and cannot be regarded in terms of standard definitions as a significance cultural landscape.

This Basic Heritage report and attached Notification of Intent to Develop fulfills the basic requirements of Sections 38(1), and Section 38(8) of the National Heritage Resources Act (Act 25 of 1999).

In heritage (built environment and cultural landscape) terms there were no significant constraints identified.

Declaration

I Melanie Attwell of Melanie Attwell and Associates am an independent specialist consultant who is in no way connected with the proponent other than in the delivery of consulting services.

Melanie Attwell, BA (hons), HED, is a heritage consultant with over 25 years experience. She has worked on local, national and international heritage projects as well as in public heritage administration. She is accredited with Principal status with the Association of Professional Heritage Practitioners and was the first chairman of that Association.

Acronyms

DEAT	Department of Environment Affairs and Tourism: Authorising Agency
DEADP	Department of Environment Affairs and Development Planning
NHRA	National Heritage Resources Act (Act 25 of 1999)
HNC	Heritage Northern Cape: Commenting Heritage Authority

HIA	Heritage Impact Assessment
VIA	Visual Impact Assessment
NEMA	National Environmental Management Act (Act 107 of 1998)
BAR	Basic Assessment Report

Definitions NHRA

"Conservation" in relation to heritage resources includes protection, maintenance, preservation, and sustainable use of places and objects so as to safeguard their cultural significance.

"Cultural Significance" means aesthetic, architectural, historical scientific social. spiritual, linguistic or technological value or significance.

"Development" means any physical intervention, excavation, or action, other than those caused by natural forces which may in the opinion of the heritage authority in any way result in a change to the nature, appearance or physical nature of a place or influences its stability and future well being.

"Provincial Heritage Resources Authority" insofar as the (NHRA) is applicable in a Province means an authority established by the MEC under Section 23 of the Act.

"Structure" means any building works, devices or other facility made by people and which is fixed to land, and includes fixtures, fittings and equipment associated herewith.

1. INTRODUCTION AND DESCRIPTION OF THE PROPOSAL

Plan 8 (Pty) Ltd is proposing to build a Wind Energy facility on Portions 4 and 7 of the farm Struisbult, situated 3kms outside Copperton, Northern Cape. The combined extent of the sites is 3000ha.

The proposal will include an overhead powerline to the national transmission grid via the Cuprum substation, as well as road infrastructure to service the facility. Each turbine turbine would generate approximately 2.5MW. There is an electricity distribution infrastructure close to the farm which could be used to transport power generated by the facility. This is currently under discussion with Eskom

Aurecon South Africa (Pty) Ltd, acting on behalf of Plan 8 (Pty) Ltd, appointed Melanie Attwell and Associates to undertake a heritage study (Notification of Intent to Develop and Heritage Statement or Baseline Study) for the area in order to fulfill the relevant requirements of the National Heritage Resources Act (Act 25 of 1999).

The report found that the farm portions of Struisbult i.e. Portion 3 and 7 which were used for stock grazing contain neither structures nor any buildings over 60 years, nor any noteworthy cultural landscapes in terms of accepted definitions.

The Provincial Heritage Authority (PHRA) is the commenting body. Heritage Assessments are referred to this Authority in terms of Section 38(8) of the NHRA for comment. The current report (Heritage Statement) is attached to a Notification of Intent to Develop (Section 38(1) NHRA.

Pre-colonial Archaeology is subject to a separate specialist study undertaken by the Agency for Cultural Resource Management

2. LOCATION AND SITE DESCRIPTION

2.1. Location

The site proposal lies 5 km outside the partially derelict mining town of Copperton. Copperton is town associated with the closed mine of Copperton in the Northern Cape in the Pixley Ka Seme District Municipality. Copperton lies 60 kms south west of Prieska and is about 920kms from Cape Town. The site lies north of the R357 to Prieska.

To the north west of the site lies the town of Copperton and the Alkantpan weapon testing facility (Armscor). Further to the south west of the site lays the disused copper mine of Copperton which operated from 1973 to 1991.

2.2. Description

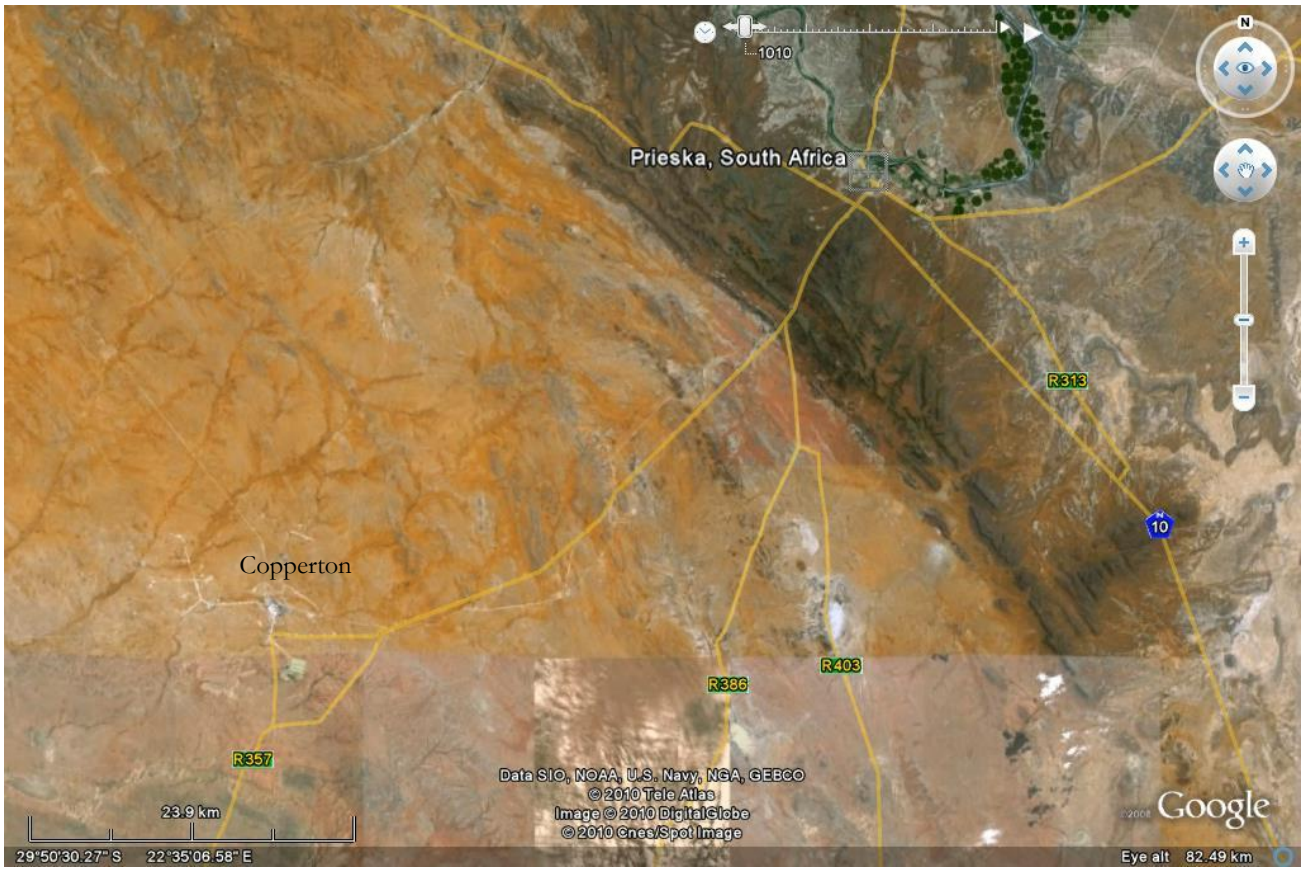
The general landscape character of the environment is flat with grassland and scrub and long views with low skylines. The area is dotted with derelict mining infrastructure towards the south west. Buildings in the area are partially dismantled or in a ruinous state. The major current land use in the general environment is cattle and sheep farming. The topography is flat with gently undulating hills and vast expanses of sky. The lack of vertical elements creates a landscape of some monotony which is punctuated only the power lines and the occasional tree. The most notable landscape features within the site is the Modderpan, a seasonal pan. (See photographs below)

The site lies within the Bushmanland Arid grassland of the Nama Karoo bi-ome. The grasslands cover the low flat plains of the affected environment. The surrounding environment is flat and featureless with low scrubby growth with a gentle slope towards the south. Trees are

generally limited to the town which is partially empty with some derelict buildings. The views are long and distant and there are no major focal points other than the mine shaft which can be see at a distance away. There is an airstrip some distance away from Copperton.

The town of Copperton consists of dwelling between c 1970 set in a low density grid pattern and a shop. The two affected portions i.e. portion 3 and 7 are approximately 3000 ha in extent and are used by the owner of Struisbult for stock grazing. The sites contain no buildings and are not settled in any way. West of the site is an airstrip owned by the site landowner. This facility is used by a number of aeroclubs.

The affected farm portions i.e. Portion 4 and 7 contain no farm buildings but are given over chiefly for grazing. There are no buildings over 60 years outside the site that are over 60 years and may be considered heritage resources. The area shows a strong absence of human habitation with the only structuring elements being the overhead power lines and the jackal proof stocking fencing and the farms roads which access the site.



Google Earth image showing Copperton 60 kms SW of Prieska, which is on the Gariep River

2.3. Annotated photographs of the site showing landscape characteristics

Site showing a portion of the seasonal Modderpan, low shrubs and grasslands

The road looking northeast

The site looking north east showing the existing overhead pylons

The airstrip to the SW of the site

Site entrance looking East North East

View showing landscape characteristics of flats, open skies low scrub and grasslands

3. BRIEF AND PURPOSE OF THE BASIC HERITAGE REPORT

The brief as identified by Aurecon (Pty) Ltd on behalf of Plan 8 (Pty) Ltd, was to undertake a Heritage Assessment starting with a NID and a Basic Heritage Report (Heritage Statement).

This was to satisfy the requirements of Section 38(1) Section 38(3) and Section 38(8) of the NHRA and other related statutory heritage requirements, and to identify whether further heritage work is required. In particular the Terms of Reference as identified by Aurecon required:

Section 38(3) of the NHRA which would include:

- Conducting a detailed desk-top level investigation to identify all archaeological, cultural and historic sites in the proposed development areas;
- Undertaking field work to verify results of desktop investigation;
- Document (GPS coordinates and map) all sites, objects and structures identified on the candidate sites where they exist;
- Submit the relevant application form, as required by South African Heritage Resources Agency and Northern Cape Provincial Heritage (Boswaya Kapa Bokone);

However desk top and site analysis revealed that there were no above ground heritage resources, buildings older than 60 years or outstanding cultural landscapes. Therefore statutory heritage constraints did not apply in this instance.

The legislative requirements as identified in the brief were more fully as follows:

The National Heritage Resources Act (NHRA) No 25 of 1999

The overall terms of reference for this study is an assessment of the impacts of the proposed transmission line on the historical built environment and cultural landscape as specialist input into an HIA process. It is informed by the minimum requirements for HIA's set out in Section 38 (3) of the NHR Act, namely:

- The identification and mapping of heritage resources.
- The assessment of the significance of heritage resources in terms of the criteria prescribed in the NHR Act.
- An archaeological and palaeontological desktop study to review known sites with comment on the significance of these sites. More specifically, the scope of work for this specialist built environment and cultural landscape study includes the following:
- The identification and mapping of potential and known built environment and cultural landscape resources at various scales including *inter alia* structures older than 60 years, previously recorded heritage resources and formally declared heritage sites. These are to be based on the criteria and grading system outlined in the NHR Act and the DEA&DP Guidelines for Involving Heritage Specialists in EIA processes with specific reference to addressing cultural landscape issues.
- A historical overview of the origins and patterns of human occupation in the affected area, where known
- The identification cultural landscapes according to standard criteria as identified below.

Findings in terms of the brief

This report satisfies the initial basic requirements of these conditions i.e. Section 38(3) a-b. It should be noted that no heritage resources (built environment) were identified on the site. There

were also no Provincial Heritage Sites (Section 27), nor buildings older than 60 years (Section 34 NHRA), identified. There were also no significant cultural landscapes as defined.

The report found that in terms of general landscape characteristic and standard definition criteria for cultural landscapes, the affected area could not be identified as a significant cultural landscape.

No impacts therefore on either heritage resources or significant cultural landscapes are foreseen and there are no major heritage issues and concerns arising out of this proposal.

4. METHODOLOGY AND LIMITATIONS

4.1. The Heritage Scoping or Baseline Report focuses on heritage resources as defined by the NHRA. A separate archaeological study will be undertaken by the Agency for Cultural Resource Management, to assess the significance of affected archaeological resources.

A separate Visual Impact Assessment will be undertaken by Viridian Consulting. It should be noted that the Baseline study was limited by the following factors

- Extent of the site
- Lack of published baseline heritage information for the general area.

5. STATUTORY FRAMEWORK

The National Heritage Resources Act (Act 25 of 1999) requires a heritage assessment in certain categories of development[1]. These categories which affect the sites in question include the following:

- The construction of a road, wall, powerline, pipeline, canal or any other similar form of linear development or barrier exceeding 300 m
- Any development or other activity which will change the character of a site

(i) exceeding 5000 sq m in extent

This application triggers and HIA as the site is over 5000 sq metres and the proposal will change the character of the site. However there are no identified heritage resources on the site as defined by the NHRA and consequently there are no heritage impacts as defined.

5.1. Affected heritage resources

The site was viewed for structures older than 60 years. None were found. The only built structures in the vicinity were part of the disused mining area (see illustrations). They were not older than 60 years and were outside the study area.

Developed sites such as the mining site, which exist within the Copperton area itself and which may be considered as being situated in the general environment of the proposal; are not older than 60 years; are in disuse and are partially derelict.

Archaeological findings form part of a separate study to be undertaken by J Kaplan. These may trigger Section 35 of the NHRA[2]. There are no known burials on the site.

[1] Section 38(1) NHRA

5.2. Affected cultural landscapes

The NHRA makes no mention of the term "cultural landscape" although the concept of a cultural landscape as a heritage resource has achieved increasing recognition and is now included as part of the lexicon of heritage resources valued by communities. The brief required that identification of significant cultural landscapes where and if affected by the proposed construction.

(i) The World Heritage Committee has identified and adopted three categories of cultural landscape, ranging from (i) those landscapes most deliberately "shaped" by people, through (ii) full range of "combined" works, to (iii) those least evidently "shaped" by people through qualities of association or for religious and artistic reasons (yet highly valued).

The landscape of the affected site does not meet any of the requirements as identified above. The general area has low intensity farming activities. The mine itself was established in 1972 and is not part of the early mining history of the Northern Cape.

The sites with higher visibility consist of the mine remnants including the mine shaft and waste dumps.

6. GENERAL HISTORICAL BACKGROUND TO THE AREA: COPPERTON PRIESKA

Parts of the north central Cape have a long history of human use dating back to the Stone Age. The area was inhabited by the San hunter gatherers for many hundreds of years followed by the Khoi groups. The Korana settled in the vicinity of the Gariep River and established themselves in the late eighteenth and early nineteenth centuries as a formidable force.[3]

Prieska was originally a fording place across the Great Gariep River is a Korana name and suggests Korana origins. This is confirmed by early travellers along the Gariep River who noted their presence at Prieska including Hendrick Jacob Wikar and later the traveller William Burchell. The Korana were wide ranging stock-farmers who covered large areas along the Gariep River in search of good grazing.

The general environmental conditions and lack of water in the area and other harsh environmental conditions and the remoteness militated against colonial stock-farmer settlement until the mid to late 19th century. Farms originally granted as loan place farms were converted to freehold.

Prieska some 50-60 kms away played a minor role in the Anglo Boer, including a revolt by Boer sympathisers in 1900 which spread within the Northern Cape. It was suppressed by a British Force in April 1900 and the affected Boers fled north towards the Transvaal (now Gauteng). The British built a lookout blockhouse on Prieska Kopje of the local tiger's eye stone which is now a local tourist attraction.

The Northern Cape is rich in base minerals with copper being mined in Okiep to the west as early as the 1850's. However commercial exploitation of base metal mining in the area only began

---

[2] Agency for Cultural Resource Management: Draft Archaeological Scoping Study and Impact Assessment: Proposed Photovoltaic Power Generation Facility in Copperton Northern Cape, April 2010.

[3] See Attwell and Associates: Copperton HIA 2010. Heritage Report for Mulilo (Pty Ltd and DJ Environmental Consultants

in the 1960's with the copper and zinc mining at Copperton and Aggeneys from 1963 to 1970. In 1969, the Prieska occurrence was investigated by the Anglovaal, with mining at Copperton beginning in circa 1972.

The town of Copperton was dependent on Anglovaal and Armscor for employment opportunities and the closing of the Copperton Mine is 1991 has had serious local economic implications.

7. THE PROJECT PROPOSAL

The proposal under review is to build a Wind Energy facility on portion 3 and 7 of the farm Struisbult, 3km north east of the town of Copperton.

The project is divided into 3 phases which will take place over 5 years with a final cumulative output of 90 turbines producing an output of 200MW.

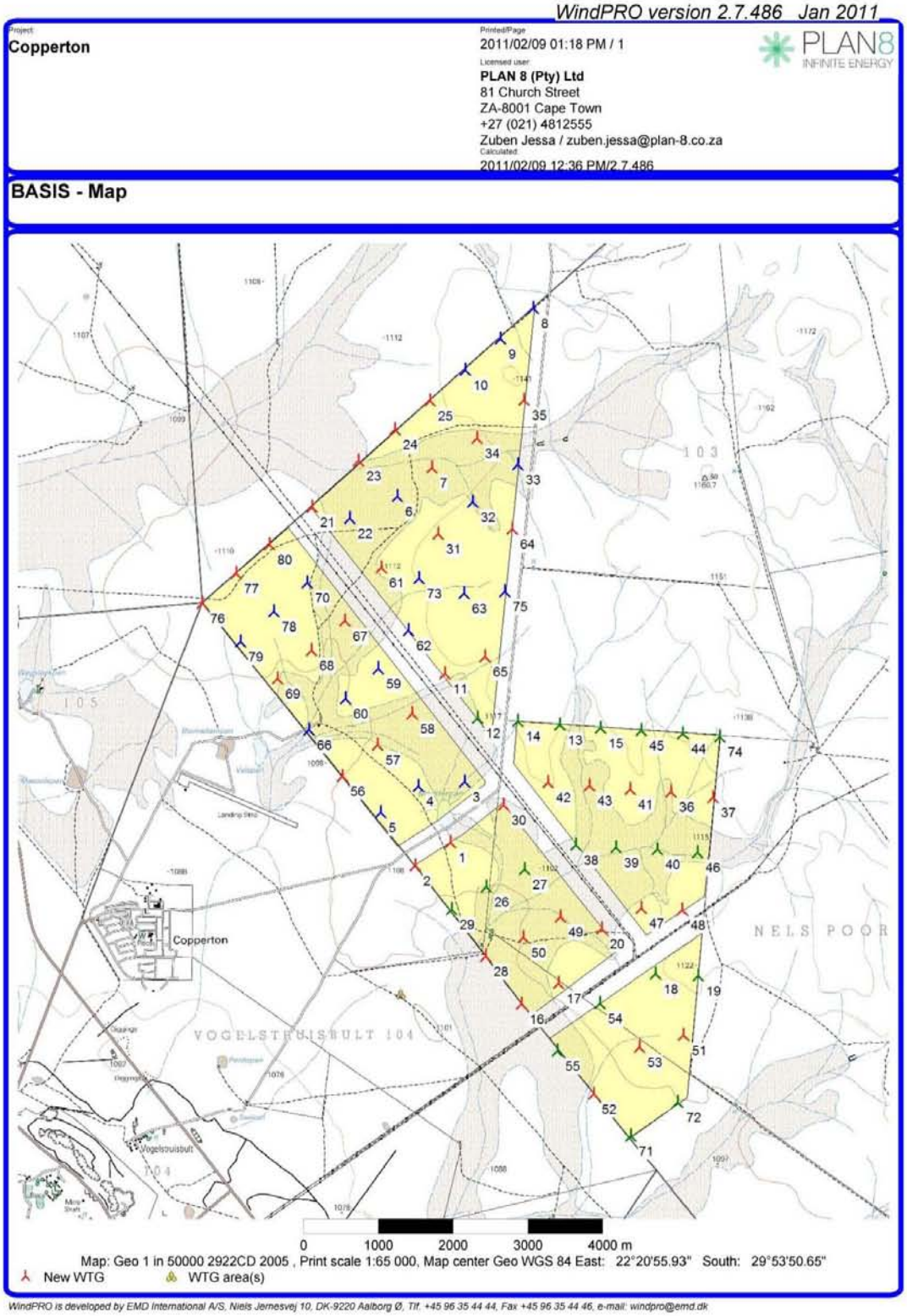
The alternatives are as follows:

- One location for the proposed wind energy facility;
- Electricity distribution via onsite linkage to the existing grid; and
- Electricity distribution via a 6.5 km 132 kV connection to Cuprum substation.

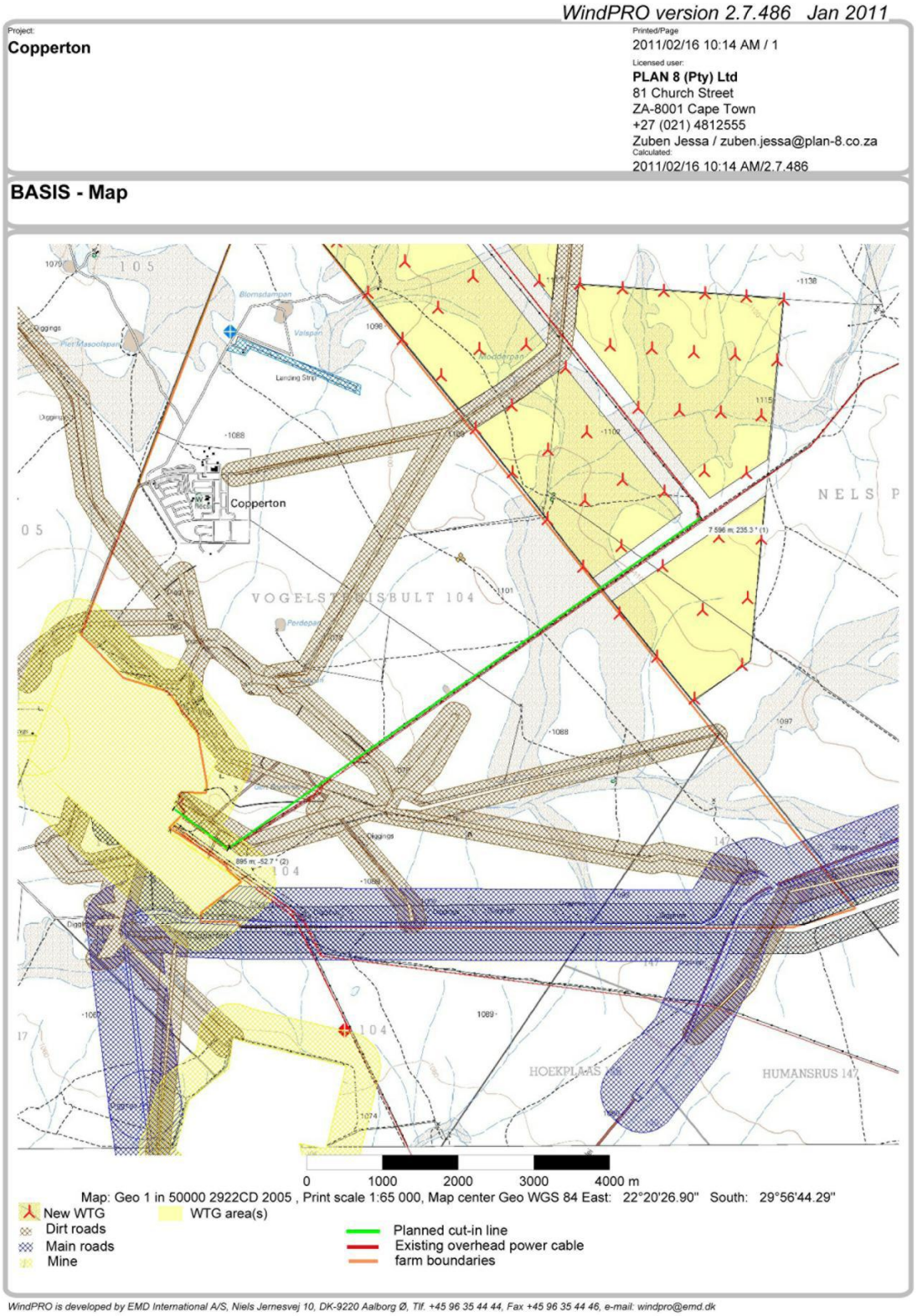
- Activity alternatives:
  - Wind energy generation via wind turbines; and
  - "No-go" alternative to wind energy production.
- Site layout alternatives:
  - One layout alternative.
- Technology alternatives:
  - One technology alternative.

Exact locations and mitigation will depend on specialist findings and have yet to be determined. Wind turbines will be three bladed and on vertical steel tower of between 60m to 100m tall in height. Blades revolve at 10-22 revolution per minute. The will be set on a re-enforced concrete platform. Each turbine will be linked by a road of 6metres

Locality Map showing Portions 4 and 7 of Struisbult Farm, the airstrip and the R357 to the north-east



Map showing the proposed turbine locations: Aurecon and Plan 8.



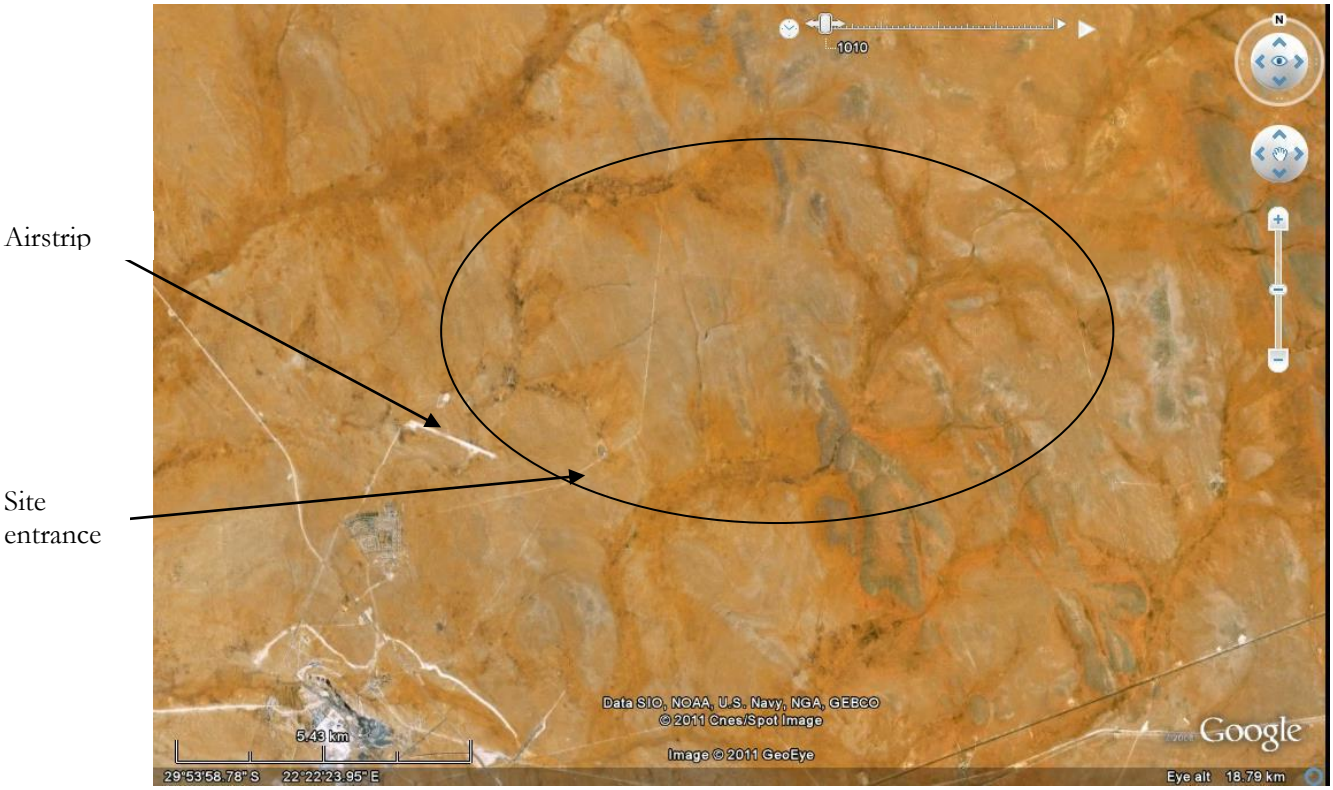
Proposal showing the Cuprum link existing overhead cables and existing farm boundaries: Source Plan 8

For further explanation regarding the proposal - see Annexure 2: *Environmental Impact Assessment: Proposed Wind Energy Facility: Summary Document: Draft Scoping Report: Aurecon.*

The Environmental Impact Assessment for the site managed by Aurecon (Pty) Ltd is currently underway with the Draft Scoping Report having been submitted for public comment. A public

participation process is underway with a Basic Information Document having been submitted to the list of stakeholders for comment by January 2011 and a public meeting held in Copperton in March 2011. A list of stakeholders and I&AP's has been compiled. Comments and responses received have been complied in a Comments and Response Report (Project Initiation Phase) In terms of this document there was a single response in relation to Heritage from N Ndobochani of the South African Heritage Resources Agency who stated that a Heritage Impact Assessment (HIA) must be carried out on archaeological palaeontological and cultural resources during the EIA process. This report is a partial response to that legal requirement. For the Comments and Response Report See Annexure 3.

8. HERITAGE RESOURCES: CONCLUSIONS



Portions 4 and 7 farm Struisbult: General area showing no settlement patterns, no heritage resources only a road network.

There are no above ground heritage resources as identified in terms of the definitions of the NHRA. The area is not considered a cultural landscape in terms of the internationally accepted definitions. The following are the conclusions

- No significant heritage resource, provincial sites or buildings older than 60 years are adversely affected by this proposal
- The site is not part of the early mining history of the Northern Cape
- The area comprises no cultural landscapes of significance
- There are no heritage related constraints on the site
- Impacts on site are likely to be visual.
- The development will improve job opportunities is a remote town where mining activities have ceased
- No further heritage studies are required.

9. RECOMMENDATIONS

The following are the heritage related recommendations:

- That Heritage Northern Cape endorse the findings of this Basic Heritage Report attached to the Notification of Intent to Develop
- That the Department of Environment Affairs and Tourism endorse this Report as fulfilling the requirements in terms of Sections 38(8), Section s 38(1) and Section 38(3)a-b of the National Heritage Resources Act.
- That the proposed wind energy facility and related infrastructure as identified will not affect above ground heritage resources of significance on the site as none exist.
- That HNC note that that are no significant heritage (built environment) constraints affecting the site.
- That the NID and attached heritage Statement are endorsed.

10. SOURCES CONSULTED

Viridian Consulting (Pty) Ltd Somerset West, Basic Assessment Report, Final: PV Facilities Copperton April, 2010.

Attwell and Associates: Heritage Impact Assessment for PV Facility Copperton Prieska, HIA undertaken for Mulilo (Pty) Ltd and DJ Environmental Consultants, 2010.