

# HERITAGE SURVEY OF THE PROPOSED SOUTHWELL WIND TURBINE DEVELOPMENT

FOR C.E.S.

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By Gavin Anderson

Umlando: Archaeological Tourism and Resource  
Management

PO Box 102532, Meerensee, 3901

Phone/fax: 035-7531785 Fax: 0865445631

Cell: 0836585362



## EXECUTIVE SUMMARY

*Umlando was contracted to undertake a survey of the proposed wind farm in the Southwell area, E. Cape, near Grahamstown. The original proposal consisted of sixteen turbines, but was then reduced to four turbines in four possible areas.*

*The heritage survey noted several isolated artefacts as well as historical buildings and a palaeontological site. More significantly is the possible negative impact in terms of a visual assessment on the cultural landscape.*

*Only the palaeontological site is directly affected by the proposed wind turbines; however, the historical buildings and landscape may be indirectly impacted. I suggest that a visual impact assessment is undertaken to determine the full impact of the wind turbines on the cultural landscape, especially since this area has been marked for tourism in terms of a historical route proposed by the Anglican Church of the Eastern Cape.*

*There is currently no legislative Act that could inhibit the development.*

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## INTRODUCTION

Umlando was contracted by CES to undertake a heritage assessment of the proposed wind farm near Southwell, Eastern Cape. Southwell is located ~30km southeast of Grahamstown, and 20km northwest of Port Alfred. The aim of the survey was to locate any potential red flags for the proposed wind farm prior to undertaking a full heritage impact study. The area originally had 16 proposed wind turbines; however, this decreased to only three proposed turbines. The exact location of each turbine is undecided, and we were given three – four options for each turbine. These location options all fell within 200m of each other, and thus I surveyed the entire hill for potential heritage sites. These are illustrated in Figures 1 – 2.

The survey indicates that the wind turbines could have a negative visual impact on the cultural landscape of the area, especially since this area is marked for a historical Anglican Church tourism route in the future. A palaeontological deposit exists in the area as well, although this is not of high significance.

The activities in the area will be:

- Visual impact
- Access roads
- Excavations for each turbine base

## RECENT HISTORY OF THE AREA

The first (Dutch) colonial inhabitants arrived in the Zuurveld area in the late 18th century (Somerset-Playne 1910-1911). Pieter Lombard, a farmer of Dutch descent, was granted the land as a loan farm in 1790. However, they had left by 1810, due to the Frontier Wars. The Fourth Frontier War of 1811 effectively removed the Xhosa-speaking people from the area and pushed them to the Fish River. By 1817, Lombard's Post, was built to house a small garrison,

officers quarters, stables, and related buildings. The remains of the original Lombard's farmhouse are apparently still visible. Lombard's Post was subsequently used as a farmhouse and again as a garrison during the subsequent Frontier Wars.

Benjamin Keeton, to establish a church and school for the farming community, granted the area called Southwell to a trust in 1843. These buildings still exist today and are good examples of the vernacular architecture of the 19<sup>th</sup> century Eastern Cape. Lombard's Post is a declared monument, while the other buildings are protected by virtue of being more than 60 years old.

### **LEGISLATION PERTAINING TO HERITAGE SITES**

The National Heritage Resources Act of 1999 (pp 12-14) protects a variety of heritage resources. These resources are defined as follows:

**“3.** (1) For the purposes of this Act, those heritage resources of South Africa which are of cultural significance or other special value for the present community and for future generations must be considered part of the national estate and fall within the sphere of operations of heritage resources authorities.

(2) Without limiting the generality of subsection (1), the national estate may include—

- (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 natural features of cultural significance;
- (e) geological sites of scientific or cultural importance;
- (f) archaeological and palaeontological sites;
- (g) graves and burial grounds, including—
  - (i) ancestral graves;
  - (ii) royal graves and graves of traditional leaders;
  - (iii) graves of victims of conflict;
  - (iv) graves of individuals designated by the Minister by notice in the Gazette;
  - (v) historical graves and cemeteries; and
  - (vi) other human remains which are not covered in terms of the Human Tissue Act, 1983 (Act No. 65 of 1983);
- (h) sites of significance relating to the history of slavery in South Africa;
- (i) movable objects, including—
  - (i) objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects and material, meteorites and rare geological specimens;
  - (ii) objects to which oral traditions are attached or which are associated with living heritage;

- (iii) ethnographic art and objects;
- (iv) military objects;
- (v) objects of decorative or fine art;
- (vi) objects of scientific or technological interest; and
- (vii) books, records, documents, photographic positives and negatives, graphic, film or video material or sound recordings, excluding those that are public records as defined in section 1(xiv) of the National Archives of South Africa Act, 1996 (Act No. 43 of 1996).

(3) Without limiting the generality of subsections (1) and (2), a place or object is to be considered part of the national estate if it has cultural significance or other special value because of—

- (a) its importance in the community, or pattern of South Africa's history;
- (b) its possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage;
- (c) its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;
- (d) its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects;
- (e) its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group;
- (f) its importance in demonstrating a high degree of creative or technical achievement at a particular period;
- (g) its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons;
- (h) its strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa; and
- (i) sites of significance relating to the history of slavery in South Africa"

## METHOD

The method for Heritage assessment consists of several steps.

The first step forms part of the desktop assessment. Here we would consult the known databases. These databases contain most of the known memorials and other protected sites, battlefields and cemeteries in southern Africa. We also consult with an historical architect, palaeontologist, and an historian where necessary. We also consulted with the database at the Albany Museum.

The initial archaeological survey (i.e. fieldwork) consisted of a foot survey where the selected area was covered. The survey also included discussions with an amateur historian, Mr Basille Glanville, who supplied documentation on the various buildings.

The survey results will define the significance of each recorded site, as well as a management plan. All sites are grouped according to low, medium, and high significance for the purpose of this report. Sites of low significance have no diagnostic artefacts or features. Sites of medium significance have diagnostic artefacts or features and these sites tend to be sampled. Sampling includes the collection of artefacts for future analysis. All diagnostic pottery, such as rims, lips, and decorated sherds are sampled, while bone, stone, and shell are mostly noted. Sampling usually occurs on most sites. Sites of high significance are excavated and/or extensively sampled. Those sites that are extensively sampled have high research potential, yet poor preservation of features.

### **Defining significance**

Heritage sites vary according to significance and several different criteria relate to each type of site. These criteria form a general assessment of a site; however, they cannot be viewed as a statistical entity as the some of the assessments have no intrinsic numerological value. Umlando has devised this scale several years ago and has corrected it over its 15 years work experience. We do however use the general environmental impact assessment scale to assist impact assessments.

These criteria are:

#### **1. State of preservation of:**

- 1.1. Organic remains:
  - 1.1.1. Faunal
  - 1.1.2. Botanical
- 1.2. Rock art
- 1.3. Walling
- 1.4. Presence of a cultural deposit
- 1.5. Features:
  - 1.5.1. Ash Features

- 1.5.2. Graves
- 1.5.3. Middens
- 1.5.4. Cattle byres
- 1.5.5. Bedding and ash complexes

**2. Spatial arrangements:**

- 2.1. Internal housing arrangements
- 2.2. Intra-site settlement patterns
- 2.3. Inter-site settlement patterns

**3. Features of the site:**

- 3.1. Are there any unusual, unique or rare artefacts or images at the site?
- 3.2. Is it a type site?
- 3.3. Does the site have a very good example of a specific time period, feature, or artefact?

**4. Research:**

- 4.1. Providing information on current research projects
- 4.2. Salvaging information for potential future research projects

**5. Inter- and intra-site variability**

- 5.1. Can this particular site yield information regarding intra-site variability, i.e. spatial relationships between various features and artefacts?
- 5.2. Can this particular site yield information about a community's social relationships within itself, or between other communities?

**6. Archaeological Experience:**

- 6.1. The personal experience and expertise of the CRM practitioner should not be ignored. Experience can indicate sites that have potentially significant aspects, but need to be tested prior to any conclusions.

**7. Educational:**

- 7.1. Does the site have the potential to be used as an educational instrument?
- 7.2. Does the site have the potential to become a tourist attraction?



7.3. The educational value of a site can only be fully determined after initial test-pit excavations and/or full excavations.

**8. Other Heritage Significance:**

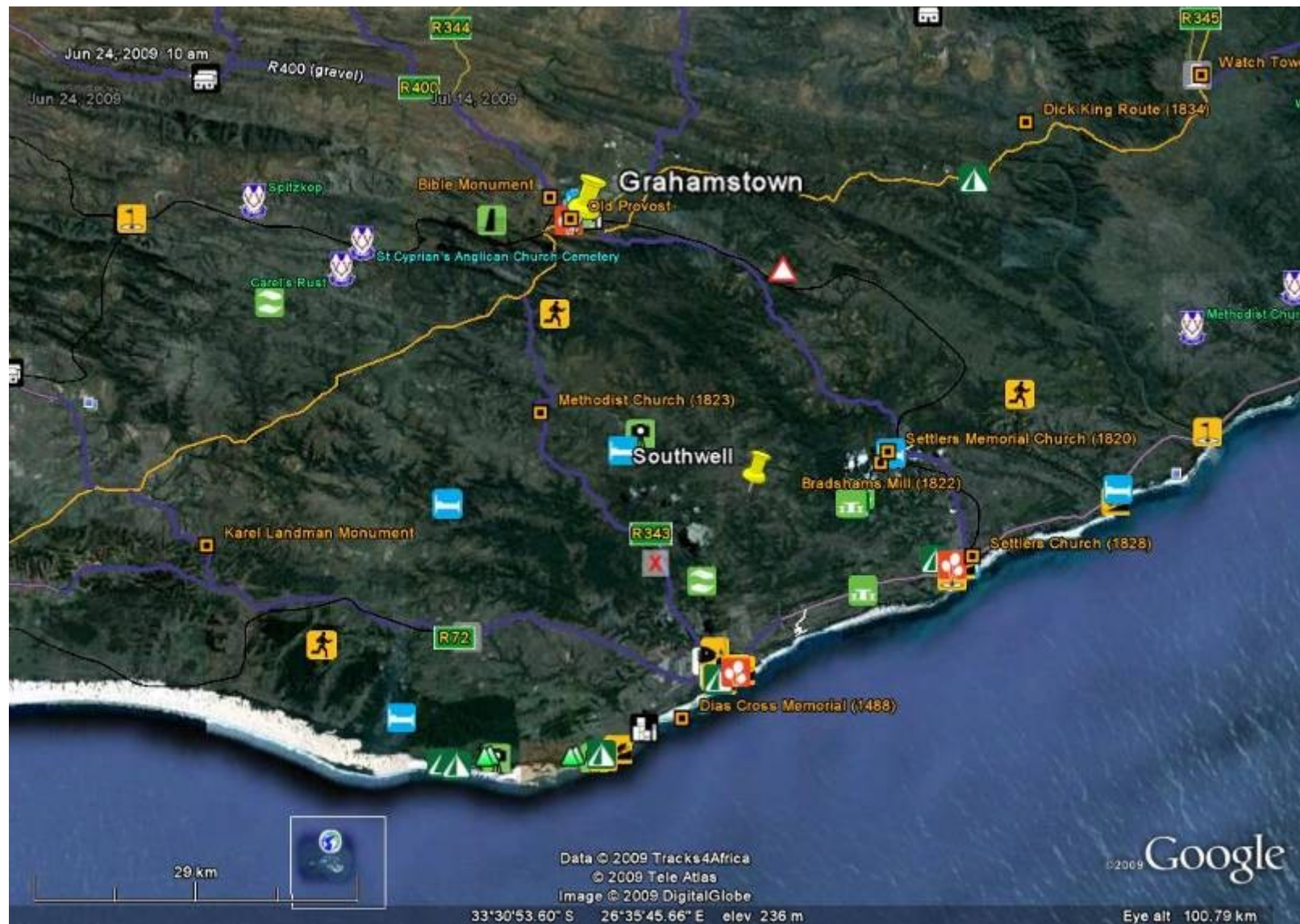
- 8.1. Palaeontological sites
- 8.2. Historical buildings
- 8.3. Battlefields and general Anglo-Zulu and Anglo-Boer sites
- 8.4. Graves and/or community cemeteries
- 8.5. Living Heritage Sites
- 8.6. Cultural Landscapes, that includes old trees, hills, mountains, rivers, etc related to cultural or historical experiences.

The more a site can fulfill the above criteria, the more significant it becomes. Test-pit excavations are used to test the full potential of an archaeological deposit. This occurs in Phase 2. These test-pit excavations may require further excavations if the site is of significance (Phase 3). Sites may also be mapped and/or have artefacts sampled as a form of mitigation. Sampling normally occurs when the artefacts may be good examples of their type, but are not in a primary archaeological context. Mapping records the spatial relationship between features and artefacts.

The survey concentrated on the proposed areas for the wind turbines. However, it soon became obvious that a visual impact may occur. I thus also visited the old buildings, etc. in the general area to see what form of visual impact may occur.

Since this survey was more in the lines of a scoping exercise, I only noted the occurrences of historical buildings and palaeontological sites. These would need to be assessed by qualified professionals if the sites are to be affected.

FIG. 1: GENERAL LOCATION OF THE PROPOSED WIND TURBINES AT SOUTHWELL



**FIG. 2: PROPOSED LOCATION OF THE THREE WIND TURBINES <sup>1</sup>**

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<sup>1</sup> Inverted Y = general location of wind turbines.



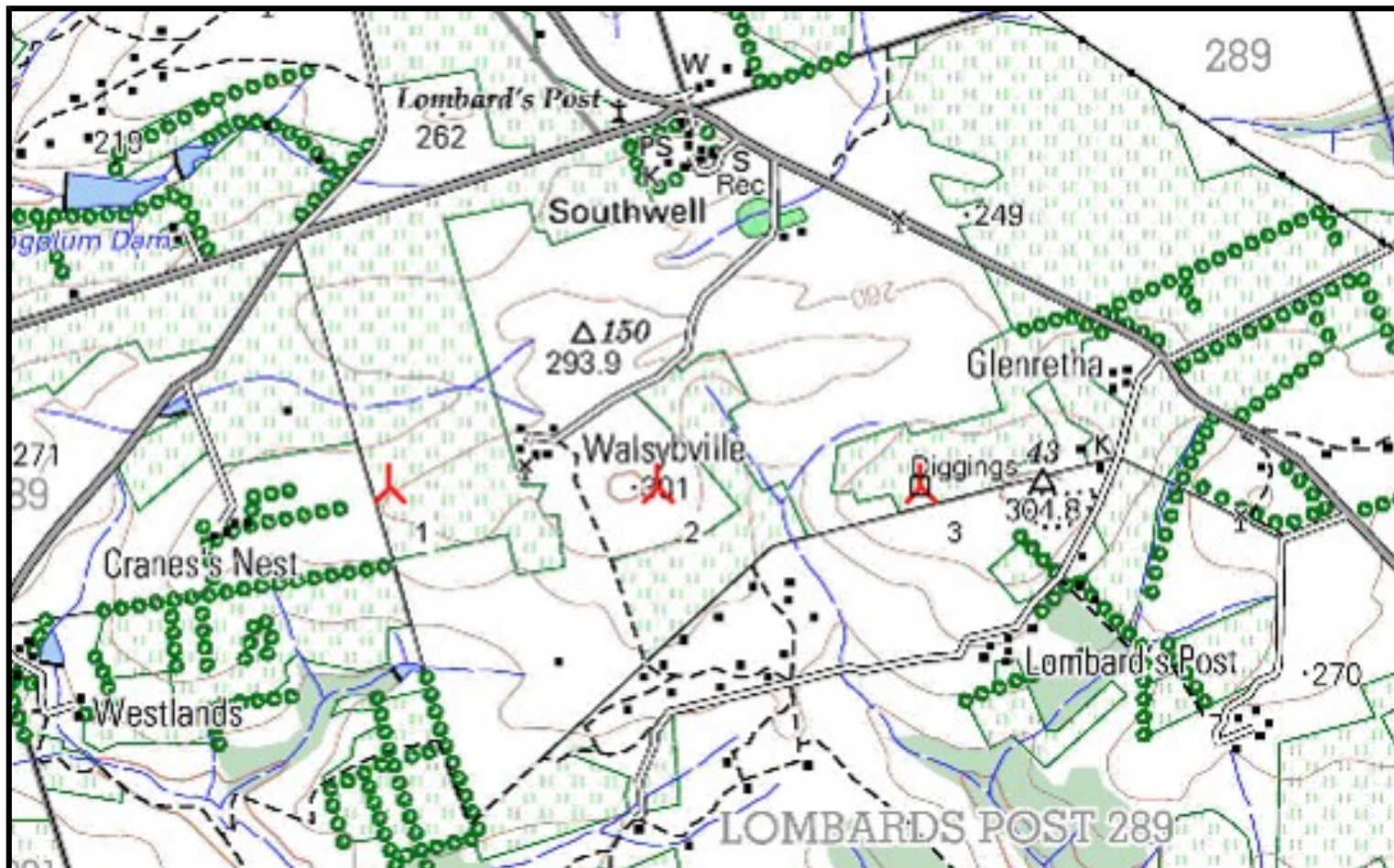
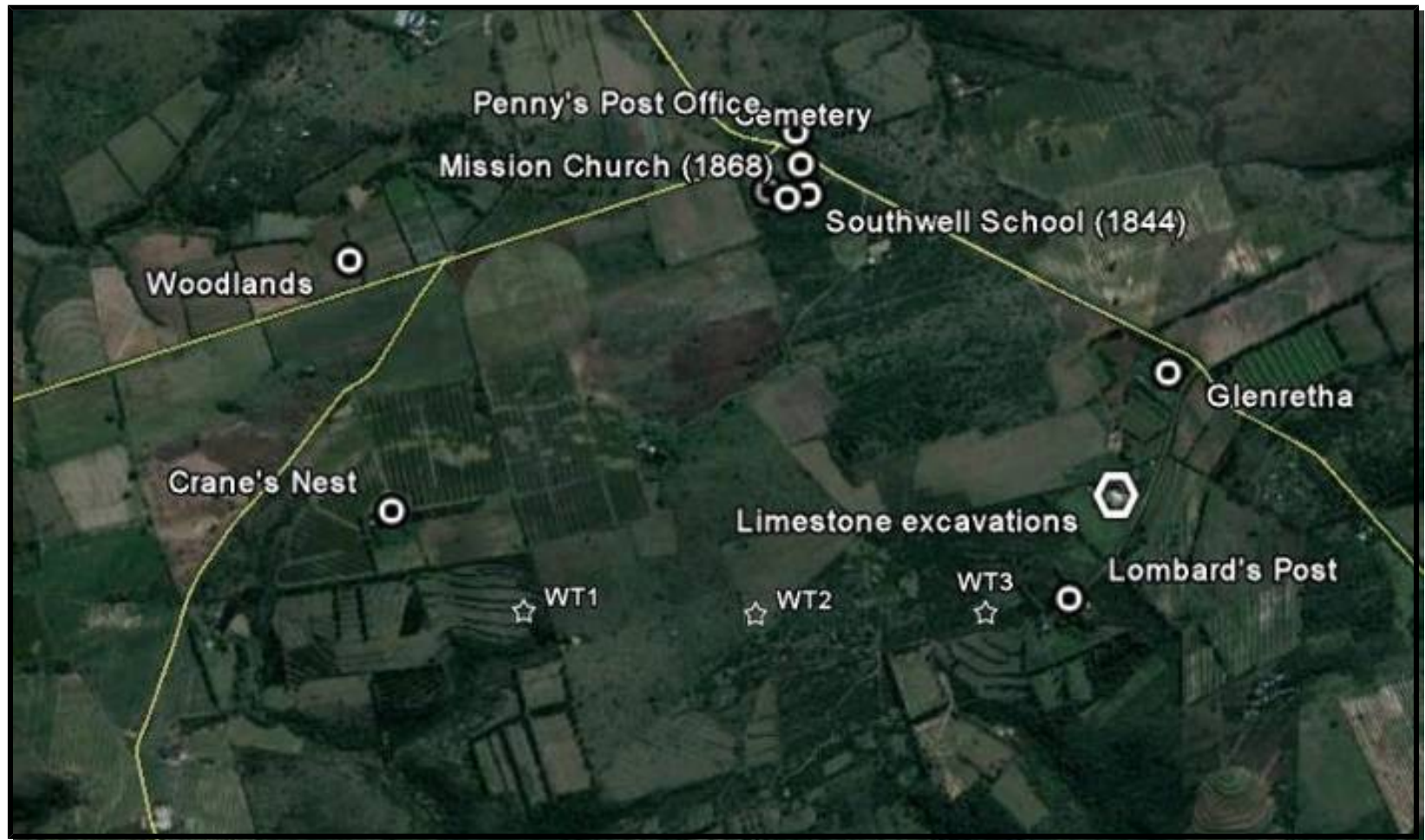


FIG. 3: PROPOSED LOCATION OF THE THREE WIND TURBINES AND HISTORICAL SITES<sup>2</sup>



<sup>2</sup> White Circle = historical buildings; white star = general location of wind turbines; white hexagon = palaeontological site

## **RESULTS**

The sites are rated in terms of their heritage significance. This should not be confused with overall significance of impact, as these models do not really account for heritage resources, and skew the rating often in favour of the development. A significance of impact rating is given at the end of the results section.

### **LIMESTONE EXCAVATIONS**

The hill for WT3 occurs along a long ridge, and it has an existing limestone quarry and isolated Middle Stone Age (MSA) artefacts.

The MSA artefacts are standard stone tools, and appear to be in a secondary context.

The limestone quarry has a marine palaeontological deposit. I noted various marine shells at various levels in the quarry. Any subsurface construction activity will thus affect these deposits. Fig. 4 shows some of the marine shell. I spoke to Dr G. Groenewald, a palaeontologist, who believed that the marine deposits may contain...xxx.

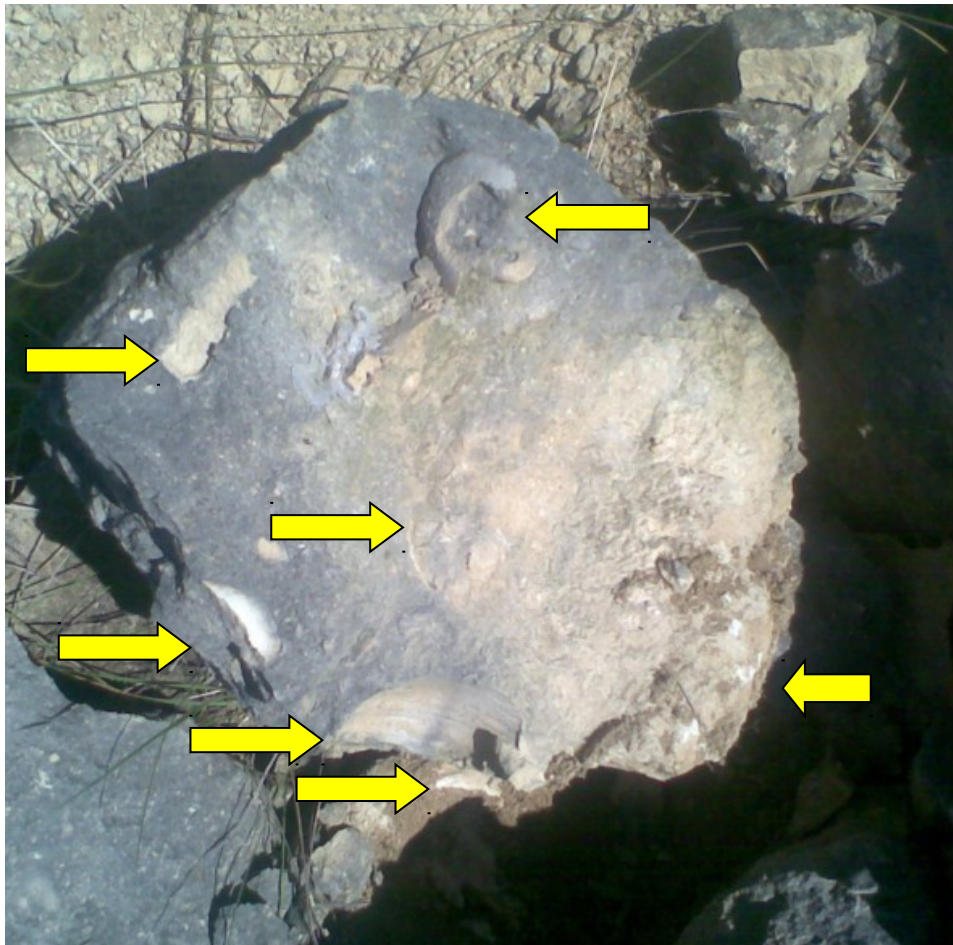
Significance: The MSA artefacts are of low significance. The significance of the palaeontological remains will need to be undertaken by a palaeontologist.

Mitigation: No further mitigation is required for the MSA artefacts. The site will need to be assessed and sampled by a palaeontologist. The palaeontological site is unlikely to be of high significance in the order of a red flag. The palaeontologist is in a “catch 22” situation, in that they cannot observe what types of fossils will occur below the area of the wind turbine, and can only make direct assessments once the deposits have already been removed. I would suggest that a palaeontologist is on site during any subsurface activity where fossils may be sampled and/or excavated during the course of the excavation. The cuttings



in the existing quarry would assist in site assessment; this is where I noted the fossils (fig. 4).

**FIG. 4: FRAGMENT OF LIMESTONE WITH MARINE SHELL<sup>3</sup>**



### **LOMBARDS POST**

Lombard's Post<sup>4</sup> is a provincial heritage site proclaimed on the 30 April 1980. Lombard's Post was a declared loan farm from 1790s. Later on, it was used as a fort during the 4<sup>th</sup> and 6<sup>th</sup> Frontier Wars (Government Gazette 7041). The original buildings still exist, although there have been several modifications over the years. The National Monuments Council (now called SAHRA) has also undertaken restoration work at Lombard's Post in the 1980s. The buildings at

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<sup>3</sup> Yellow arrows indicate some marine shell

<sup>4</sup> It is incorrectly placed on the 1:50 000 topographical map of this area

Lombard's Post are private buildings, although members of the public are allowed to view them.

Wind Turbine #3 is located ~280m northwest of these buildings. The turbine is to be placed higher up on the hill and will be in visual line of the buildings.

Significance: The farm complex is registered as a national monument, and it is thus of high **HERITAGE** significance. Although Lombards Post is of highly significant historical importance, there will be no actual impact on this heritage resource associated with the proposed project and as such, the significance of the impact is LOW with and without mitigation

Mitigation: There is no direct impact on this national monument.

### **ORIGINAL FARM HOUSES**

There are four historical farm complexes in the immediate vicinity of the proposed wind towers. These are: Glenretha, Woodlands, Crane's Nest, and Penny's Post. More of these buildings occur in the general vicinity of the proposed wind turbines. These buildings have various dates, but do date between 1820s and 1850s. Most of these buildings are well preserved, with Glenretha on the verge of being ruined as it is currently unoccupied. These buildings are good examples of vernacular architecture of the farm complex of the early 19<sup>th</sup> century Bathurst magisterial district.

The buildings vary from 500m – 2000m from the various towers. None of the buildings are directly impacted by the wind towers. There may be a negative visual impact of some towers on some of the buildings.

I did not undertake an architectural impact assessment on these buildings as they are not directly affected. I have spoken to Debbie Whelan (an historical architect) who believes that these buildings are significant.



Significance: The buildings are significant in terms of their age, and mostly well preserved features.

Mitigation: No mitigation is required since the wind towers are not directly affecting the buildings.

### **THE SOUTHWELL COMPLEX**

The complex of buildings, known as Southwell, consists of the following (see figures 4-5):

- Southwell school (1844)
- St James Church (1851)
- Mission Church (1868)
- St James Church Cemetery (c. 1870s if not prior)
- More recent teachers accommodation (in wattle and daub technique)
- Contemporary school buildings
- Several graves presumed to be related to farm labourers – these are undated.

The series of buildings are integral to the history of the area, as the land was set up as a Trust for the members of the community<sup>5</sup>. Most of the family members of the surrounding farms are buried in the cemetery, and the St James Church (an Anglican Church), appears to be central to the farming religion of the area. The earliest grave with visible writing dates to 1855.

The buildings are on the top of the hill and the wind turbines will be in full view of the various buildings at a distance of 1.4 – 1.7km.

Significance: The buildings are significant in terms of their age, historical reference to the people of the area, and mostly well preserved features.

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<sup>5</sup> This excluded Catholics!

FIG. 4: LOCATION OF BUILDINGS AT SOUTHWELL



FIG. 5: VARIOUS BUILDINGS AT SOUTHWELL

**Lombard's Post**



**Southwell School**



**Mission Church**



**St James Church**

Mitigation: No mitigation is required since the wind towers are not directly affecting the buildings.

**TABLE 1: SIGNIFICANCE OF IMPACT OF EACH WIND TOWER AND IN GENERAL<sup>6</sup>**

Impact	Effect						Risk or Likelihood		Total Score	Overall Significance
	Temporal Scale		Spatial Scale		Severity of Impact					
Palaeontoligical site										
Without Mitigation	Permanent	4	Localised	1	Moderate	2	Definite	4	11	Moderate
With Mitigation	Permanent	4	Localised	1	Moderate	2	Definite	4	11	Moderate
Lombard's Post										
Without Mitigation	Permanent	4	Study area	2	Slight	1	May occur	2	9	Moderate
With Mitigation	Permanent	4	Study area	2	Slight	1	May occur	2	9	Moderate
Original Farm Buildings										
Without Mitigation	Permanent	4	Study area	2	Slight	1	May occur	2	9	Moderate
With Mitigation	Permanent	4	Study area	2	Slight	1	May occur	2	9	Moderate
Southwell Complex										
Without Mitigation	Permanent	4	Study area		Slight	1	May occur	2	9	Moderate
With Mitigation	Permanent	4	Study area		Slight	1	May occur	2	9	Moderate
Isolated Stone Age Artefacts										
Without Mitigation	Permanent	4	Localised	1	Slight	1	Definite	4	11	Moderate
With Mitigation	Permanent	4	Localised	1	Slight	1	Definite	4	11	Moderate
General										
Without Mitigation	Permanent	4	Study area	2	Slight	1	Probable	3	10	Moderate
With Mitigation	Permanent	4	Study area	2	Slight	1	Probable	3	10	Moderate

<sup>6</sup> This does not include a visual impact assessment, and assumes that there will be a visual impact

## MANAGEMENT PLAN

The proposed location of the wind turbines impact directly on one heritage area only. This area consists of an ephemeral scatter Middle Stone Age stone tools and a palaeontological deposit. No further mitigation is required for the MSA finds; however, a palaeontologist will need to assess the marine deposits. The development will need to apply for a destruction permit from SAHRA to impact on the MSA and palaeontological material.

My main concern is the potential negative visual impact the wind turbines may have on the historical landscape. The Southwell area has several buildings that are well preserved and are very good examples of early settler architecture and farm life and settlements. Some buildings even pre-date the 1820 settlers and form an integral part to the colonisation of the Eastern Cape by European settlers. The Anglican Church is also rooted in this history and has formed a strong bond with the early British colonials. I was informed of a potential heritage tourism route planned for the area. This route will form part of a tourist route focusing on early Anglican churches in the Eastern Cape.

The cultural landscape is thus very important in that it remains “undeveloped” else it will lose its colonial appeal. There are currently very few markers on the horizon with the exception of the St James Church. An introduction of wind turbines would thus affect the visual sensitivity and landscape integrity<sup>7</sup>. Unless the turbines are screened they will constantly be in view and thus disturb the ‘sense of place’ that may be created by potential tourism. These reports do indicate that after the impact does decrease after 500m.

I have spoken to SAHRA (Cape Town), and was informed that there is no official buffer zone for these buildings. Furthermore, there is no legislation

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<sup>7</sup> See Oberholzer, B. 2005. *Guideline for involving visual & aesthetic specialists in EIA processes: Edition 1*. CSIR Report No ENV-S-C 2005 053 F. Republic of South Africa, Provincial Government of the Western Cape, Department of Environmental Affairs & Development Planning, Cape Town.



pertaining to the visual impact of developments on various types of sites. They can however, comment and make recommendations when the visual aesthetics of an area may be undermined.

Thus in terms of a management plan, I can only recommend that a full visual impact assessment of the turbines for the area, in relation to the various historical features, is undertaken. The visual impact assessment should then be re-assessed by a heritage impact, as visual impact assessments are not qualified to comment on heritage impacts. That is, the two should be combined in a final report.

## **CONCLUSION**

Umlando undertook a survey of the proposed locations of three wind turbines near Southwell, Eastern Cape. I extended my survey area to include the historical buildings as these form an integral part of the cultural landscape, and are thus part of heritage management. I did not assess the buildings themselves, but considered the relation of each structure to the proposed wind turbines.

The proposed wind farms may have a negative visual impact to the cultural landscape, as there will be a juxtaposition of modern and historical features on the same viewpoint. Part of the proposed tourism route is to look at the rural aspect of Anglican Churches and large wind turbines will obviously affect this. A full visual impact assessment should be undertaken in conjunction with a heritage specialist.

A palaeontological site was observed in a cutting made by an existing limestone quarry. The significance of these fossils needs to be made by a palaeontologist. However, given the size of each wind turbine the basal structures are unlikely to impact on the deposits in a significant manner. There is an ephemeral scatter of Middle Stone Age stone tools in the general areas of the

wind turbines. If the proposed development does continue, it will need to apply to SAHRA for a permit to damage these two sites.

There is no legislation to counter the wind turbines. Those sites that are directly affected are of low significance and these can be managed by obtaining a permit. I would suggest that the development considers the visual impact it will have on the area, and perhaps undertake a full visual impact assessment.

**SITE RECORD FORM**



## UMLANDO ARCHAEOLOGICAL SITE RECORD FORM

**SITE CATEGORY:** (X where applicable)

Stone Age:

Early Iron Age:

Late Iron Age

Historical Period:

Recorder's Site No.: SOUT01

Official Name: various farms

Local Name: Southwell

Map Sheet: 3326

GPS reading: 33°32'40.14"S 26°41'55.97"E



### DIRECTIONS TO SITE: SKETCH OR DESCRIPTION.

From Grahamstown, take the R67, or R343, towards the coast. The Southwell turnoff is marked on both roads. Note the 1:50 000 topographical maps have Lombard's Post incorrectly placed. The church buildings are demarcated, as is the Southwell Country club. The various buildings are within a 2km radius of the country club. The limestone quarry is located 370m from the Country Club, as you travel southeast from the Southwell intersection. Country club. Then travel 1.45km to the next turnoff to the right – there is a signpost indicating Lombard's Post. From this T-junction travel about 400m and take the gravel road on the right. This will lead you to the quarry and the trig. beacon on the hill.

### SITE DESCRIPTION:

Type of Site: Palaeontological marine deposit; MSA

Merits conservation: Re-assess with palaeontologist.

Threats: Yes

What threats: wind turbines

### RECORDING:

Graphic record: Yes

Digital pictures: x

Tracings :

Re-drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: Sept. 2009

Owner: various

References: CRM report

### Description of site and artefactual content.

Site consists of an ephemeral scatter of MSA in a secondary deposit. There is a thick limestone deposit below the surface with palaeontological marine deposits. Most noticeable are a variety of shells