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5 February 06

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**PROPOSED ESKOM OVERBERG POWERLINE
VRYHEID SUBSTATION TO RIVIERSONDEREND SUBSTATION
HERITAGE IMPACT ASSESSMENT REPORT**

Executive Summary

The possible heritage impact of the 42 km proposed 66 kV powerline between the Riviersonderend (Point A) and Vryheid (Point L) substations was assessed (Fig. 1). Three days were spent in the field examining sections along the route. No fossil bearing deposit of palaeontological significance was recorded. An archaeological finding of moderate to low significance recorded was an artefact occurrence associated with a silcrete outcrop near Point K and avoidance is recommended (Figs. 1, 3 & 6). The farmyard (werf) on the farm 571 (Diamant) is identified as historically significant and it is recommended that the line not run past the front of the house as proposed (Point H, Figs. 3-5). The line should not visually impact on the old building opposite Point C on the N2 (Fig. 2). An individual concern was expressed on the visibility of the line and in particular Point F (Fig.2) from the homestead on farm 413/2 (Vaalkop). The positioning of point F should take into consideration the visual impact on the homesteads of both Vaalkop and farm 425/5 (Lorraine). The line (Fig. 3) should avoid buildings on 385 (Welgeund) and the boundary between farms 367/12 (Vlak Hoogte) and 371 (Kleinfontein West) as well as a grave on the farm 366/8 (Leeufontein).

Background

The brief was to carry out a heritage impact assessment of the route of a proposed 42 km long 66 kV powerline (Fig. 1) linking Rviersonderend and Vryheid (near Swellendam) substations described below. This is a requirement in terms of the National Heritage Resources Act, Section 38.

Description of Powerline Route and Area

The route (Fig. 1) is mainly south of the N2 National Road between Riviersonderend and Swellendam. It starts at the Riviersonderend Substation (Point A) on the eastern edge of the town (1:50 000 3419 BB Riviersonderend sheet), crosses and follows the N2 eastwards for 4 km (Points B-E). Thereafter the route runs roughly parallel to but south of the N2. There is a short straight section (Points E-F) and a much longer straight section (Points F-G) covering the greater length of the proposed line (1:50 000 3420 AA Stormsvlei sheet). From Point G on the farm Diamant close to the N2 the proposed route follows an existing 132 kV powerline southwards (Points G-L) to the Vryheid Substation located on the R319 road, 15 km south of Swellendam (1:50 000 3420 AB Swellendam sheet).

The map coordinates supplied in degrees, minutes and seconds have been recalculated as degrees and minutes for plotting the proposed line on 1:50 000 and 1:10 000 maps used in fieldwork. These transformed coordinates are as follows:

A = 34°09.0762' E; 19°55.4022' S; B = 34°09.2411' E; 19°55.8073' S
 C = 34°09.3824' E; 19°56.8612' S; D = 34°09.4372' E; 19°56.8934' S
 E = 34°09.5476' E; 19°57.6648' S; F = 34°09.7543' E; 20°00.3465' S
 G = 34°06.4732' E; 20°15.5940' S; H = 34°06.6015' E; 20°16.2641' S
 I = 34°07.8018' E; 20°17.4511' S; J = 34°08.2553' E; 20°18.1841' S
 K = 34°08.8378' E; 20°19.7667' S; L = 34°08.9557' E; 20°19.8607' S

The area is part of the coastal platform that is cut across rocks of the Bokkeveld Group. Colloquially known as the Ruens this is a rolling, dissected landscape with relatively low rainfall. The soils fall in the C3 subunit of Schloms, Ellis & Lambrechts (1983), which comprise shallow residual soils. Dissection and stripping of surface materials means silcretes, laterites and any thickness of preweathered materials are rare. The area is important agriculturally and it is estimated that some 90% of the proposed line runs across wheat fields. Ploughing has resulted in the ground surface being carpeted with clasts of weathered bedrock derived from the subsurface. Cultivation extends into the drainage lines leaving virtually no undisturbed ground. The thin surficial cover and extensive ploughing are not favourable conditions for the preservation of archaeological and palaeontological materials in the ground.

The only significant section of indigenous vegetation is on the hills on the property Diamant, Points G & I, which the line skirts. In the course of the survey there were frequent sightings of small antelope and notably a sighting of blue crane. As the national bird the blue crane has heritage importance and the birds are the focus of a tourism initiative in the area. Powerlines have been implicated in mortality in the species.

In prehistoric times Stone Age hunter-gatherers would have inhabited the region and in the last 2000 years it would have provided grazing for Khoekhoe herds in a system organized around stockposts and kraals. In colonial times formal land grants known as 'vee plaats' were issued as early as the 1750s in the case of Rhee Heuvel (Diamant) one of the farms on the route. Traditionally a sheep and grain producing area, farming has been progressively intensified and is now highly mechanised.

Methodology

There are two aspects to this Heritage Impact Assessment. Firstly, the possibility that prehistoric archaeological resources in the form of stone artefacts, pottery and the like occurred along the route required assessment. Secondly, the possibility that the route of the powerline may impact on historic buildings and their settings or associated features like graves required assessment. The methods used were foot traverses of representative sections and examination of all places where the line crosses farm tracks and the terrain such tracks traverse. In this way it was possible to obtain an assessment of the wider area. A number of landowners were interviewed. Three days were spent in the field on the assessment. GPS readings mentioned in this report refer to the WGS84 standard.

Description of Heritage Resources on the Route

Point A, Riviersonderend Substation is to the east of the urban development and examination of the site showed no cultural materials in the surrounds.

Point B is adjacent to the N2 in ploughed fields as is Point C and no impact is anticipated.

Points C-D are where the line crosses the N2. Directly opposite C (GPS reading: 34°09.366' S; 19°56.593' E) on the south side of the N2, immediately to the east of the junction with the Klipdale Road and set back from the N2 is a small-unoccupied farmhouse in poor state of repair (Fig.2). It is may date to circa 1900 and is conservation worthy. Point D on the south side of the N2 should be positioned so as not to encroach on the house and visually impact on the setting. Plotting the coordinates of Point D on a 1:10 000 scale shows its position some distance to the east of the house but the recommendation to avoid encroachment stands. Points D-E along the south side of the N2 is across cultivated lands with no impacts archaeological or other cultural materials anticipated.

Points E-F is a section crossing cultivated lands and no heritage impact is anticipated. Mr Pedrie Knoblauch son of the owner and manager of farm 413/2 (Vaalkop) expressed concerns about the visual aspect of the line as seen from the homestead. In part his concern has to do with the visibility of any larger pylon erected at Point F. The plot of Point F on the coordinates given shows it adjacent to the R172. In that position the visual impact of the line and Point F on the homestead on the adjoining farm 425/5 (Lorraine) should also receive consideration.

Points F-G is a long straight section over rolling hills and crossing several streams. Examination of the stream crossings (Kwassdie and Heskwas) failed to reveal any cultural materials. The plot of the proposed line (Fig. 3) passes close to restored cottages (GPS reading: 34°07.243' S; 20°12.121' E) situated on a rise overlooking the Heskwas River on the farm 385 (Welgegund). The line is not pegged on the ground so the relationship to the buildings could not be precisely determined. The recommendation is that it should avoid proximity to the buildings. Where the proposed line crosses the R169 at the boundary between farms 367/12 (Vlak Hoogte) and 371 (Kleinfontein West) there is a row of labourers cottages (GPS reading: 34°06.847' S; 20°14.074' E), which should be bypassed at a safe distance.

Points G-H-I (Fig. 3) include the farm 571 (Diamant) and the adjoining Leeufontein properties. Diamant is part of the original Rhee Heuvel VOC 'vee plaats' 1759 grant to F.Botha. A later document dated to 1848 (Fig. 4) under the Cape Colony administration refers to the grant of the property on Perpetual Quitrent and includes a map drawn by the Colonial surveyor Hopley showing the farmhouse. Copies of the relevant archival documents were supplied by the owner Mr MJ Odendaal and have been provided to SHE Cape Environmental (cc) and Heritage Western Cape. The house preserves original fabric in the form of yellowwood beams and metre-thick walls and in the thinner walls and Oregon pine beams shows a history of renovation under different owners. The house and the farmyard or werf are culturally significant. There is an existing 132 kV line that runs directly in front of the werf (Fig. 5) and detracts from its visual setting or ambiance. The proposed line would run parallel to the existing line and possibly closer to the werf. This would compound an existing problem and it is strongly recommended that the proposed line not be routed in front of the historic werf.

On the farm 366/8 (Leeufontein) is a grave marked by a plinth (GPS 34°07.283 S; 20°17.050 E). The line should not encroach on the grave.

Points I-J-K are along the existing 132 kV line and across ploughed fields No cultural materials were noted.

Points K-L (Fig.3) is where the 132 kV line from the Vryheid Substation straddles a silcrete outcrop and an existing 66 kV line pylon is placed on the top of the outcrop (Fig. 6). Silcrete is a favoured raw material used by Stone Age people for making artefacts and quarry sites may be associated with such outcrops. The silcrete exposed at this outcrop is coarse grained and of poor quality but there is some artefact flaking debris associated with the outcrop (GPS reading: 34°08.857' S; 20°19.813' E). The significance is rated as moderate to low but it is recommended that the pylons not be positioned on the outcrop.

Sources of Risk

The risk that the erection of the pylons for the line will disturb buried archaeological materials is considered low. There is no background scatter of stone artefacts in this landscape, the norm in many areas. Ploughing may have masked the background scatter to some extent but the absence may reflect low occupation of the strip of dry lands immediately south of the Riviersonderend River. The extent of cultivation means the risk of disturbing any ephemeral herder sites is low. For most of its length the proposed line does not encroach on built structures. Particular instances of possible encroachment are noted in the recommendations.

Recommended Mitigations

A general recommendation is that in the unlikely event that any excavations in the course of erecting the pylons uncover buried palaeontological or archaeological materials it is required that Heritage Western Cape (Dr A Jerardino) Tel: 021 483 9687 Fax: 021 483 9842) be notified. The discovery of any human remains should be reported to the South African Heritage Resources Agency (Ms M Leslie) Tel: 021 462 4502.

The house opposite Point C as plotted on the 1:10 000 map and visible on the Orthophoto map is identified as conservation worthy and the position of Point D should not encroach on it.

An individual concern has been expressed on the visibility of the line and particularly of any structure erected at Point F from the homestead on the farm 413/2 (Vaalkop). This concern can be extended to the homestead on the adjoining farm 425/5 (Lorraine).

The line should not pass close to the buildings on farm 385 (Welgegund) and the boundary between farms 367/12 (Vlak Hoogte) and 371 (Kleinfontein West).

It is recommended that the proposed line be rerouted so as not to pass in front of the historic farmstead on farm 571 Diamant.

The proposed line should avoid the grave close to the 132 kV line on farm 366/8 Leeufontein

Either spanning or circumventing the low hill can mitigate the impact on the stone artefact occurrence associated with the silcrete outcrop at Point K.

Conclusions

The survey of the route of the line has revealed limited archaeological and no palaeontological remains. If the silcrete outcrop at Point K is avoided the development is unlikely to have any impact on archaeological resources. The historic farmhouse and werf on the farm Diamant are identified as significant and the recommended rerouting of the line around the back of the werf would mitigate the impact. At several other points identified in this report the proposed line runs close to dwellings or in potential line of sight of dwellings. Such matters will need consideration in finalising the trace of the line.

Reference

Schloms, B.H.A., Ellis, F., and J.J.N. Lambrechts, 1983. Soils of the Cape coastal platform. South African National Scientific Programmes Report No.75 of the CSIR, Pretoria. Pp. 70-86.

Figures



Figure 1 Proposed 42 km powerline, Riviersonderend -Vryheid

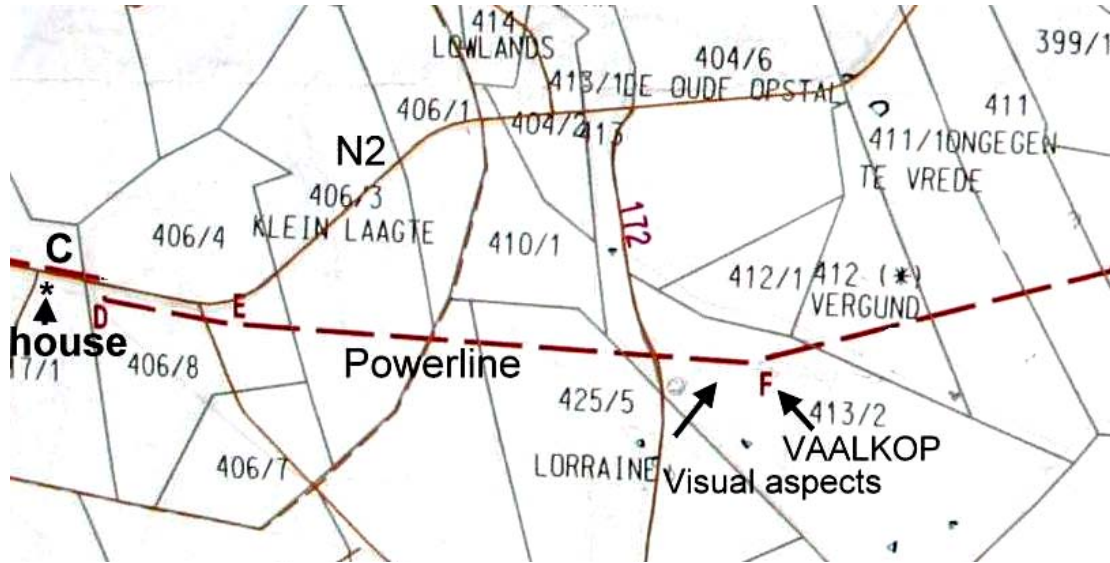


Figure 2 Location of features on section C-F

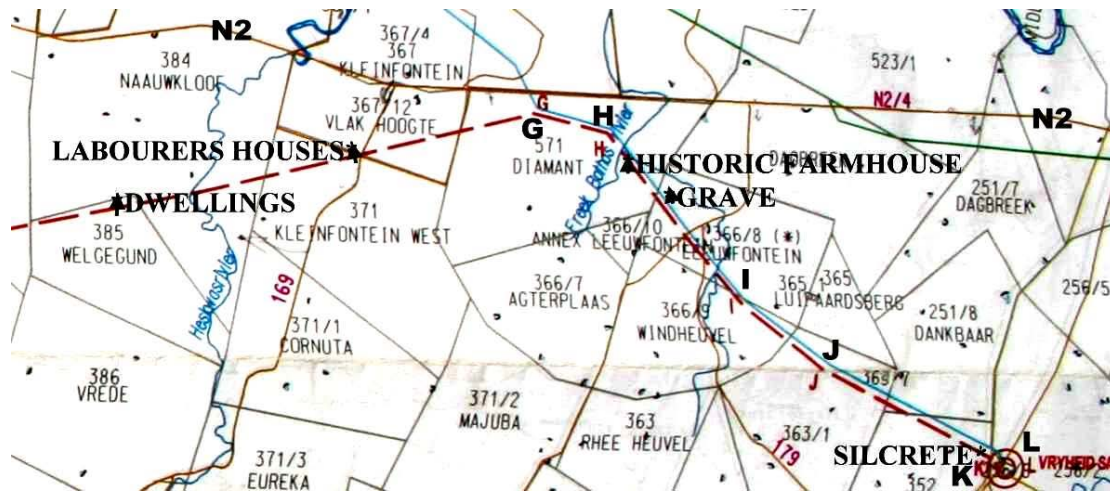


Figure 3. Location of features on section G-L

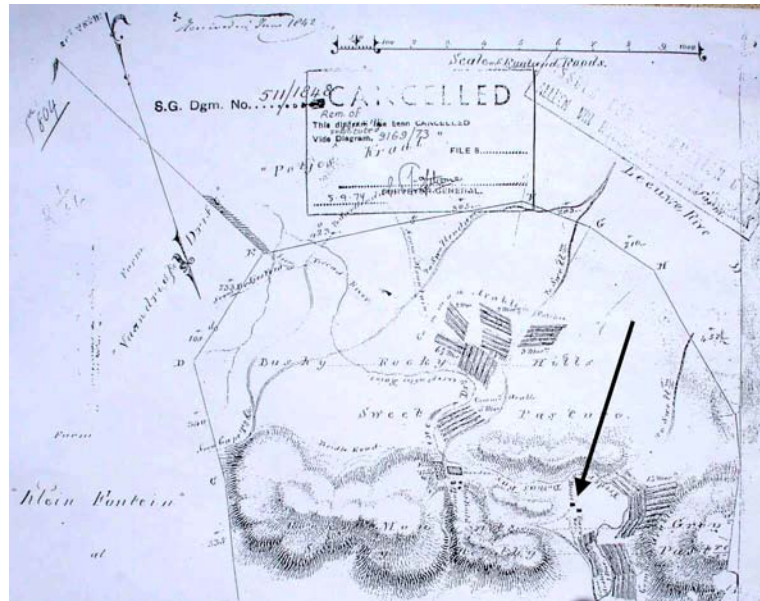


Figure 4. 1848 plan of Diamant showing position of homestead



Figure 5. Position of existing 132kV powerline in relation to Diamant homestead

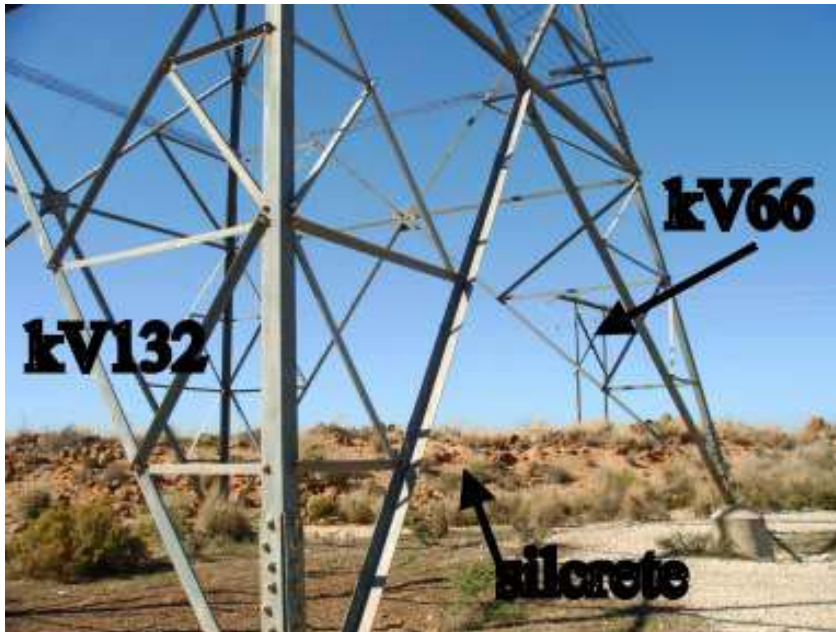


Figure 6. Existing 132 and 66 kV lines crossing silcrete outcrop at Point K