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Christelle Greyling  
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By email: christelle@ecosphere.co.za

Dear Christelle

### **PROPOSED POWERLINE RISIVILLE/MCKAY FEEDER LINE UPGRADE: HERITAGE SCREENING**

Thank you for providing project information with regards to the proposed upgrading of the Risiville/Mckay Feeder Line near Vereeniging from a capacity of 11kV to 22kV (Figures 1 & 2). The proposal is to reuse the same alignment along Hawthorn Street but then switch to the northern side of Grens Street for the west-east section of the route (the existing powerline is on the southern side of this road). The total length of the proposed upgrade is 3.3 km. Along Hawthorn Street the new poles will be placed in the same foundation holes utilised by the existing 11kV power line, but new holes will be excavated along Grens Street. The old line would be decommissioned and removed. It is noted that the surface along the south side of Grens Street is sloping an unsuitable for the new powerline, hence the need to move it to the north side of the road.

This screening study is to be submitted to Provincial Heritage Resources Authority Gauteng (PHRA-G; responsible for built environment and cultural landscapes) and the South African Heritage Resources Agency (SAHRA; responsible for archaeology and palaeontology) via the online South African Heritage Resources Information System (SAHRIS) in motivation for exemption from further studies.

Several types of heritage resources could conceivably be impacted and these are dealt with in turn.

#### Archaeology

Although Iron Age remains occur widely in the Gauteng area, the majority are located close to rock outcrops because the rocks were used in the construction of stone-walled settlements. Stone Age artefacts can be expected to occur in very low densities (essentially precolonial litter). Other archaeological materials are unlikely to occur. Only one previous survey in the immediate vicinity is known to have occurred. Van Vollenhoven (2008)<sup>1</sup> did not locate any significant materials in an area just southwest of the present project (along the edge of the urban area). A road construction project has been proposed along Grens Street but

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<sup>1</sup> Van Vollenhoven, A.C. 2008. A report on a Cultural Heritage Impact Assessment for two proposed water pipe lines in the Midvaal municipal area, Gauteng Province. Unpublished report prepared for Nature & business Alliance Africa (Pty) Ltd.

has not yet been assessed (Bokamoso 2015)<sup>2</sup>. The low likelihood of isolated finds being made means that no significant impacts to archaeological resources are expected.

### Palaeontology

The SAHRIS Palaeosensitivity map shows the site to be of very high palaeontological sensitivity. Because of this a brief specialist assessment was commissioned in order to inform this screening study. Dr John Almond examined the area from the desktop and produced the report attached to this letter as Appendix 1. He finds that the study area is underlain by sediments of the Vryheid Formation which are internationally renowned for the rich assemblages of plant fossils they contain. He notes that the surface lacks rock outcrops and that the uppermost bedrock is likely to be well-weathered due to proximity to the surface. In addition, the project is most likely to impact largely the younger, unconsolidated superficial sediments which are considered to be of low palaeontological sensitivity. No significant impacts to palaeontological resources are expected and Dr Almond sees no need for any further assessment for this project, so long as a chance fossil finds procedure is incorporated into the Environmental Management Plan. He has appended one to his report and this can be extracted for use.

### Graves

Unmarked precolonial graves can occur anywhere and their locations can be impossible to predict. However, given the alignment of the proposed project along an existing servitude and road, and between ploughed lands, as yet undiscovered graves are highly unlikely to occur.

### Built environment

Just one building occurs close to the route. This lies at the southern end of Hawthorn Street, on its eastern side (Figure 6). It is not possible to tell whether the house existing in 1961 is still present within the modern structure, but at the minimum the original building does appear, from its roofscape, to have been extensively modified. It will not be impacted in any way and is of no further relevance.

### Cultural landscape

Cultural landscapes can be defined briefly as “the spatial manifestation of the relations between humans and their environment” (Marquart & Crumley 1987: 1)<sup>3</sup>. The study area is rural in nature with gravel roads, tree lines and arable lands characterizing the landscape. The edge of the urban landscape of Vereeniging is not far away to the southwest, however. The tree lines are the most visibly striking elements of the cultural landscape and the 600 m tree line along the northern side of Grens Street will be impacted. It will either need to be trimmed or else trees will be removed where necessary in order to create the necessary safety distance between the trees and the powerline. Figures 6 and 7 show that in 1961 there were no tree lines along either Grens or Hawthorn Streets. Figure 8 shows the Grens Street tree line to still be absent but the Hawthorn

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<sup>2</sup> Bokamoso Environmental. 2015. Draft Environmental Scan for the Route Determination Stage of the Proposed Road K47, between the proposed Road K83 and the Proposed PWV 20, in the Vereeniging Area, Gauteng Province. Unpublished report prepared for Gauteng Department of Roads and Transport.


<sup>3</sup> Marquart, W.H. & Crumley, C.L. 1987. Theoretical issues in the analysis of spatial patterning. In: Crumley, C.L. & Marquart, W.H. (eds) Regional Dynamics: Burgundian Landscapes in Historical Perspective. San Diego: Academic Press.

Street one is just visible (i.e small, young trees). Figure 9 shows that by 1985 the Grens Street tree line was still not present but that along Hawthorn had grown up considerably. It is only the younger tree line (along Grens Street) that will be affected. While it is an integral part of the cultural landscape it should be noted that it is not an historical tree line and that other tree lines occur in the surrounding area including along Bocket Street both north and south of its Grens Street intersection.

#### Conclusions

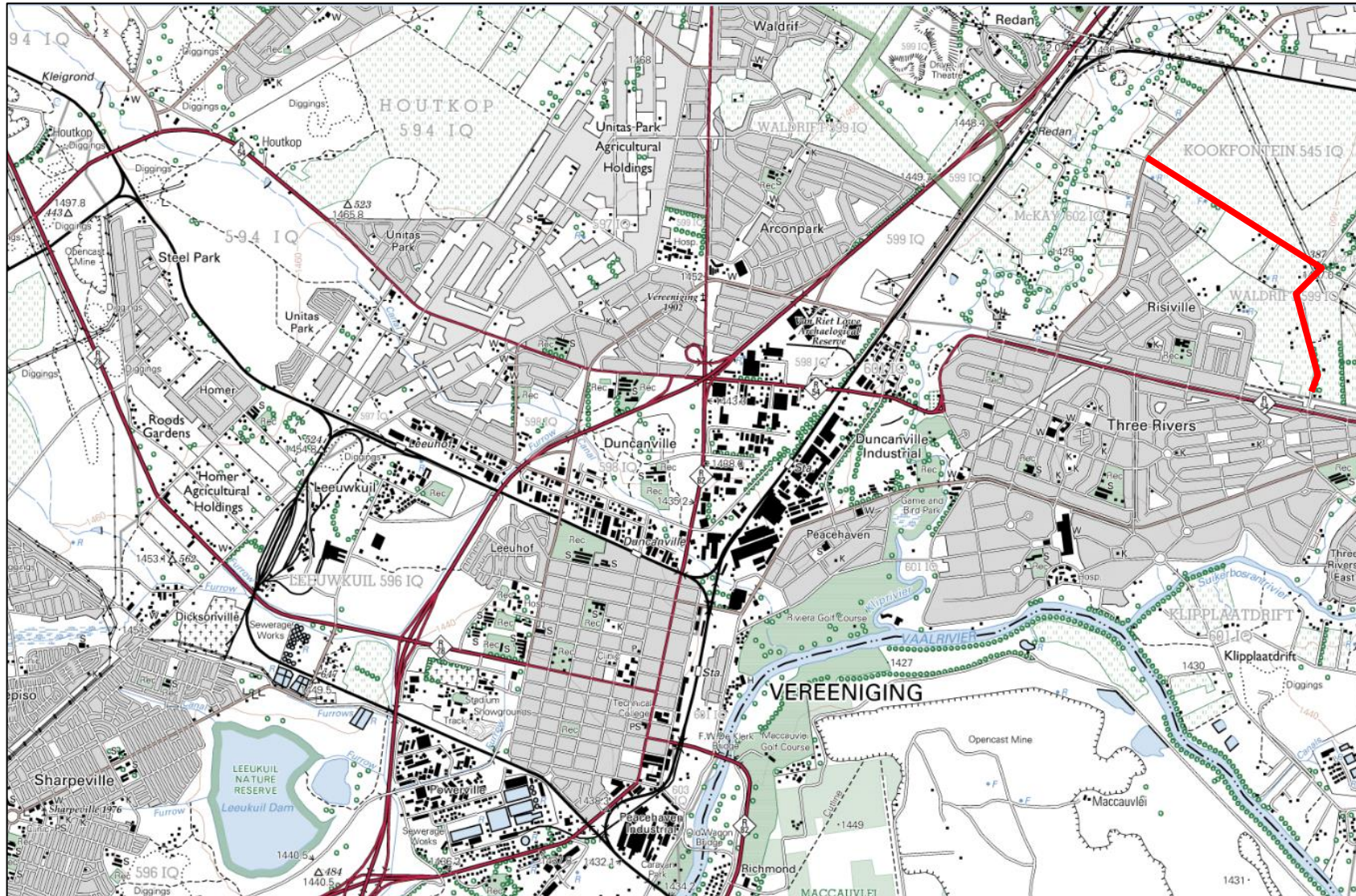
This screening study has found that only one aspect of heritage will be affected. This relates to the removal of all or part of a 600 m long tree line along the northern side of Grens Street. The tree line is not historical (it is less than 35 years old). Given the presence of several other tree lines in the vicinity, the removal of this one is unlikely to constitute an impact of high significance. Because of the need to construct a safe powerline, there seems no point in further assessment of the cultural landscape impacts. Accordingly, this study recommends that PHRA-G and SAHRA should allow this project to proceed without the need for an HIA.

Yours sincerely



Jayson Orton





**Figure 1:** Extract from mapsheet 2627DB showing the location of the proposed powerline upgrade at the north-eastern edge of Vereeniging.

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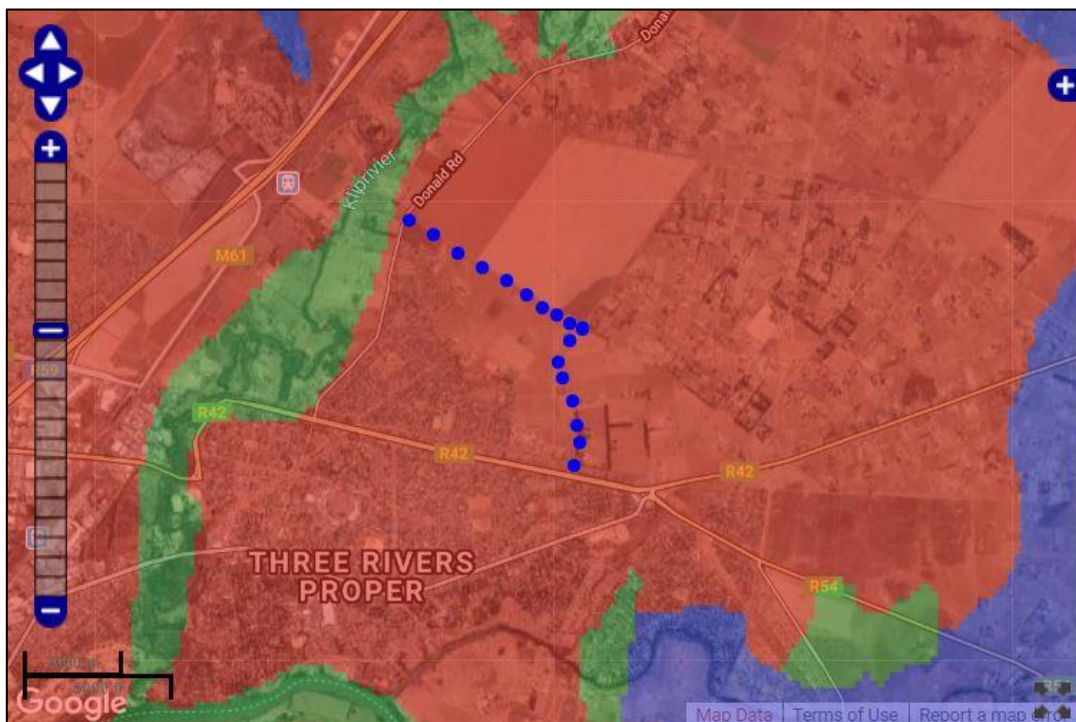
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**Figure 2:** Aerial view of the study area showing the alignment of the powerline proposed for an upgrade.



**Figure 3:** Extract from the SAHRIS Palaeosensitivity Map showing the study area (blue dotted line) to be of very high sensitivity (red shading).





**Figure 4:** View towards the southeast along Grens Street from the north-western end of the study area at the Brockett Street intersection. Source: Google Earth Street View.



**Figure 5:** View towards the north along Hawthorn Street from the south-eastern end of the study area. The pylon in view is where the upgrade commences. Source: Google Earth Street View.





**Figure 6:** Aerial photos from 1961 (Job 438, strip 022, photograph 03212) and 2019 (Google Earth) showing the nature of the landscape 60 years ago. The inset shows the house at the southern end of Hawthorn Street.

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**Figure 7:** As above but focused on Grens Street and showing the tree line to be absent.

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**Figure 8:** Aerial photos from 1969 (Job 653, strip022, photograph 05679) showing the tree line along Grens Street to be absent. The line along the southern end of Hawthorn Street is present but still small.



**Figure 9:** Aerial photos from 1985 (Job 881, strip 005, photograph 03071) showing the tree line along Grens Street to be absent. The line at the southern end of Hawthorn Street, however, was already present. The ends of the powerline are arrowed.



**Appendix 1: Palaeontological screening study**