

# Exemption of a Phase 1 Heritage Impact Assessment for a proposed new overhead and underground installation of a Vodacom optic fibre cable along provincial and local road reserves between Witrivier and Nelspruit, MP Province\*.

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Site: Witrivier, Nelspruit, R40 provincial road and local roads

Map Ref.: 1:50 000 topographical maps 2531AC Witrivier and 2530BD Nelspruit.

General coordinates 25°19'54.02"S 31° 0'41.75"E (White River) and 25°27'59.10"S 30°58'16.80"E (Nelspruit).

Neotel, on behalf of Vodacom, proposes to install approximately 37 kilometres of fibre optic cable along the road reserve of the provincial R40 road, including local road reserves, and within the municipal boundaries of Nelspruit and Witrivier, Mpumalanga Province (Fig. 1 & 2). The proposed route of the cable is shared between the towns of Nelspruit ( $\pm 6.4$  km) and Witrivier ( $\pm 4.7$ km) with the majority of the fibre route situated on the road reserve and rural areas between the two municipal areas (as pointed out by the environmental risk assessment report prepared by Enviroworks Environmental Consultants).

The installation will occur by means of two installation methods, namely, **overhead** cable installation and **underground** cable installation.

## Overhead cable installation:

Approximately 25.5 kilometres of the line will be constructed using overhead cables. The installation will occur by using 9 meter and 11 meter poles:

- The 9m poles will be planted at a depth of 1.5 m and a hole will be opened for this purpose with the dimensions of 0.35m x 0.35m (= 0.1225m<sup>2</sup> or 0.147 m<sup>3</sup>);
- The 11m poles will be planted at a depth of 1.7m and a hole will be opened for this purpose with the dimensions of 0.45m x 0.45m (= 0.2025m<sup>2</sup> or 0.3038 m<sup>3</sup>); and
- Poles will be planted at intervals ranging between 80 and 280 metres.

## Underground cable installation:

Approximately 11.5 kilometres of the line will be constructed using underground cables. The installation will occur by means of trenching:

- The trenches with a width of 200 mm and 1.5 m depth will be opened.
- In areas (most of the urban areas) where mechanical trenching is impossible, hand trenching methods will be used. This will be done by using picks and shovels.
- In instances where roads are to be crossed, a directional drilling method will be used. This means drilling below the road surface from one side to the other.

Primary and secondary sources both indicate that the prehistory of the region has been largely under-researched in recent times. Later Stone Age sites are known from the Kruger National Park and an excavated Early Iron Age site is found at Plastron east of Witrivier (Mason 1962; Bergh 1995). Heritage impact assessment studies previously carried out in the region refer to rock shelters that contain rock art in the vicinity of Nelspruit, and early anthropological studies show that the region was already inhabited by Eastern Sotho and Tsonga groups from before the 18th century (Van Warmelo 1935). Stone walled settlements with cultural remains have been

recorded in the Hazyview, Sabie, Bushbuckridge and Graskop areas, but no significant archaeological sites have been recorded between Witrivier and Nelspruit to date (van Wyk Rowe 2013). The proposed development footprint is also located within an area that requires no palaeontological assessment according to the SAHRIS palaeosensitivity map.

The optic fiber route will largely impact on degraded terrain within built-up areas, road reserves and on land formerly altered by human settlement and road construction. Potential archaeological and palaeontological impact that may result from the installation of the **overhead** fibre optic cable is considered low. Potential archaeological and palaeontological impact that may result from the installation of the **underground** component of the fibre optic cable is considered low. It is recommended that the proposed development relating to the current layout of the optic fibre footprint is exempt from a Phase 1 Archaeological and Palaeontological Impact Assessment.

Bergh, J. S. 1999. *Geskiedenisatlas van Suid Afrika: Die vier Noordelike Provinsies*. Van Schaik Uitgewers. Pretoria. 352 pp.

Evers, T.M. 1977. Plaston Early Iron Age site, White River district, Eastern Transvaal, South Africa. *South African Archaeological Bulletin* 32:170-178.


Mason, R.J. 1962. *Prehistory of the Transvaal*. Johannesburg: Witwatersrand University Press.

Van Schalkwyk, J, Steyn, A. & Naude, M. 1996. *Investigation of rock art sites near Nelspruit, Mpumalanga Province*. Unpublished report 1995KH05. Pretoria: National Cultural History Museum.

Van Warmelo, N.J. 1935. *A Preliminary Survey of the Bantu Tribes of South Africa*. Government Printer. Pretoria. 135 pp.

Van Wyk Rowe, C. 2013. Phase 1 archaeological / heritage impact assessment for proposed construction of Mpumalanga cultural and creativity hub: *on the remainder of the farm agricultural holding no 56 ju*, White River, Mpumalanga Province. Unpublished report prepared for SAHRA.

Yours truly,



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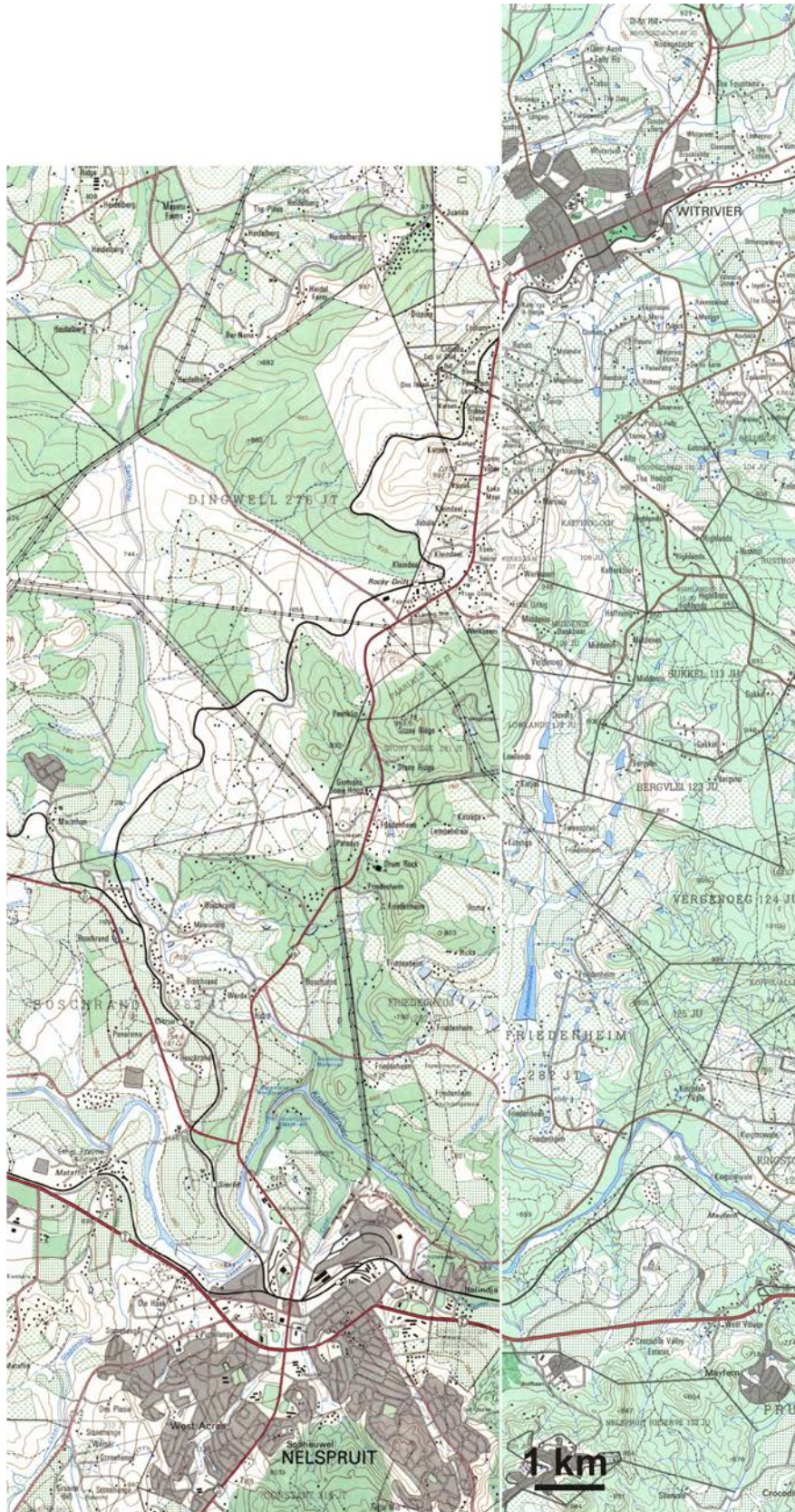


Figure 1. The proposed optic fibre route between Witrivier and Nelspruit (portions of 1:50 000 scale topographic maps 2531AC Witrivier and 2530BD Nelspruit).

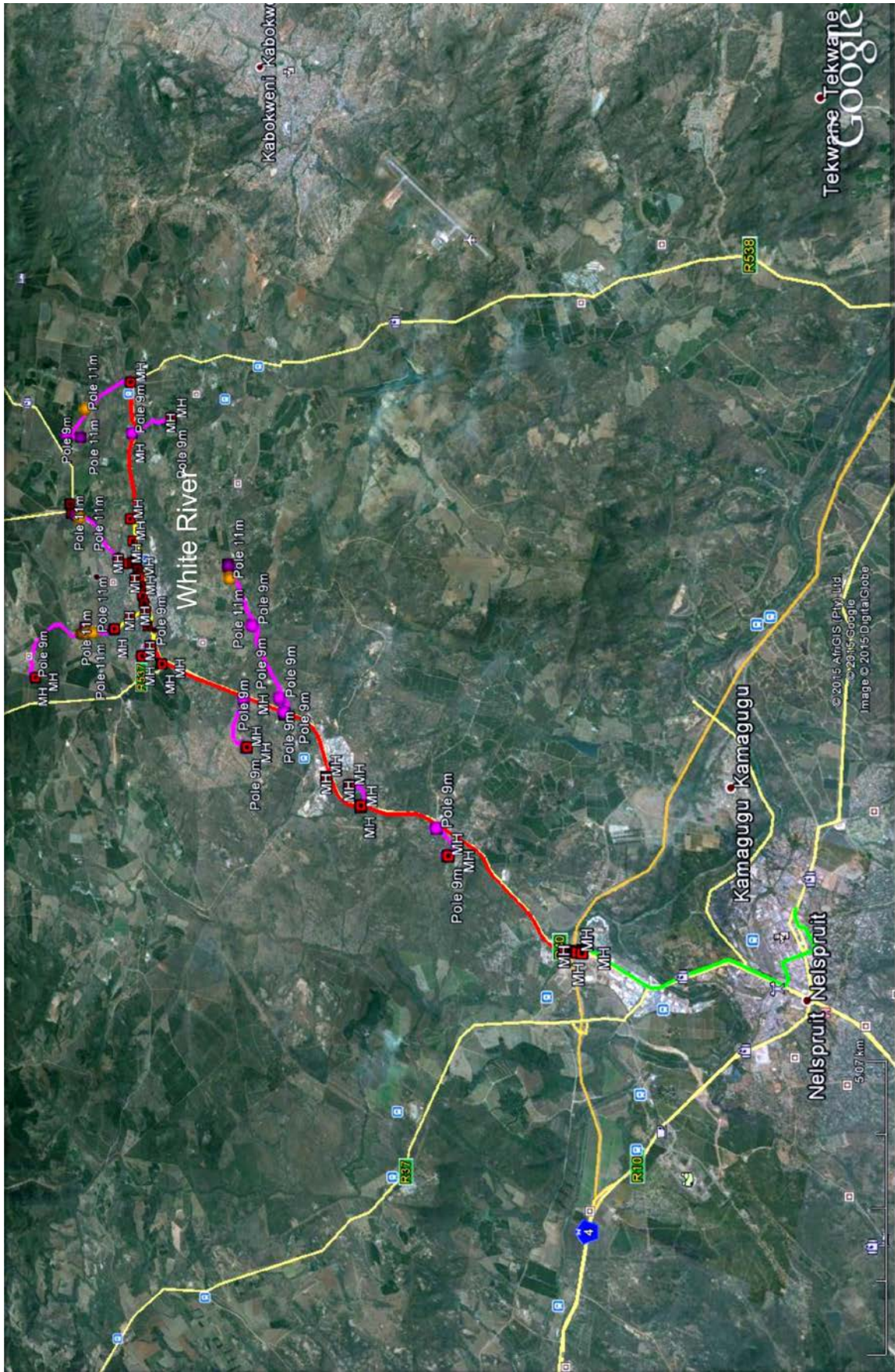


Figure 2. Aerial view of the Witrivier - Nelspruit optic fibre route.