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26 November, 2021

Attention: Ms Nokukhanya Khumalo (nkhumalo@sahra.org.za)  
SAHRA Case Officer Limpopo  
South African Heritage Resources Agency (SAHRA)

Dear Ms Khumalo

**RE: Low level crossing on the Mokolo River, Kaingo Private Nature Reserve**

**Introduction**

Ecoleges Environmental Consultants was appointed by Kaingo Reserve (Pty) Ltd as Environmental Assessment Practitioner to manage the Environmental Process in obtaining permission to construct a low concrete crossing on the Mokolo River within the Kaingo Private Nature Reserve. The concrete crossing will be built on the Mokolo River downstream of (below) the measuring weir and between the Farm Laurel 159 KQ and the Farm Mokolo River Private Nature Reserve 660 KQ within Kaingo Game Reserve, Lephalale Local Municipality, Waterberg District, Limpopo. As part of the process Kudzala Antiquity was appointed to provide an assessment of the impact on possible heritage resources.

The Kaingo Game Reserve purchased an adjoining nature reserve (Mokolo Private Nature Reserve) on the opposite side of the Mokolo River. Therefore access is needed over the Mokolo River. During the winter months it is possible to cross the River but during summer the River flows strongly and vehicles cannot cross, therefore a low concrete crossing is proposed. The crossing will have pipes to let the river flow through it, even when the level of the water is low. Because of the small footprint and the location of the proposed crossing as well as the result of a physical inspection by an archaeologist, the proposed activities will not have an impact on any heritage resources and no remedial action or mitigation is needed.

**1. Project Background**

The proposed low-level crossing is situated on the Mokolo River between Farm Laurel 159 KQ and Farm Mokolo River Private Nature Reserve 660 KQ (24° 04' 46.8" S and 27° 46' 26.5" E)  
Mr Jurie Willemse of Kaingo Private Nature Reserve acquired a neighbouring property on the opposite bank of the Mokolo River, called Mokolo River Private Nature Reserve. Access to the neighbouring property is required for eco-tourism activities and by the Management Authority to fulfil its conservation mandate during the day-to-day operations or management of both Nature Reserves. There is currently one existing sand bed crossing that is only accessible during the dry winter months of the year. For the remainder of the year, access to the neighbouring property would entail an extended round trip that requires any driver to exit Kaingo Game Reserve and then enter the Mokolo

River Private Nature Reserve. The proposal therefore is to construct a low-level crossing further downstream that will ensure year-round connectivity between both properties. The proposed activity (the development of a low-level crossing) will negate the unnecessary and wasteful expenditure of time and money to access the neighbouring property by exiting Kaingo Game Reserve.

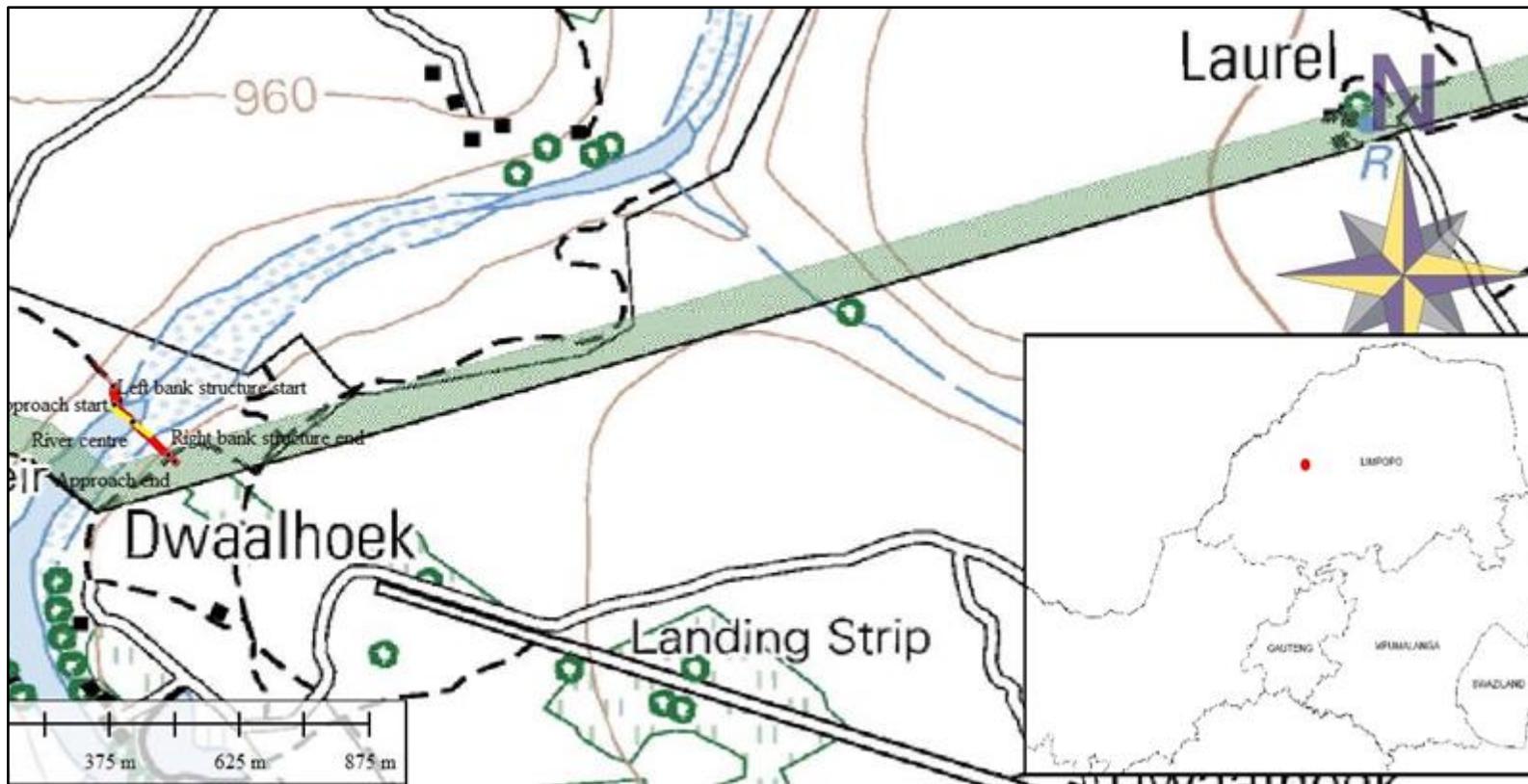


Figure 1.1. Regional map of the project (1: 50 000 topographical map 2427 BB, 2005).



Figure 1.2. Local map of the project (1: 50 000 topographical map 2427 BB, 2005).

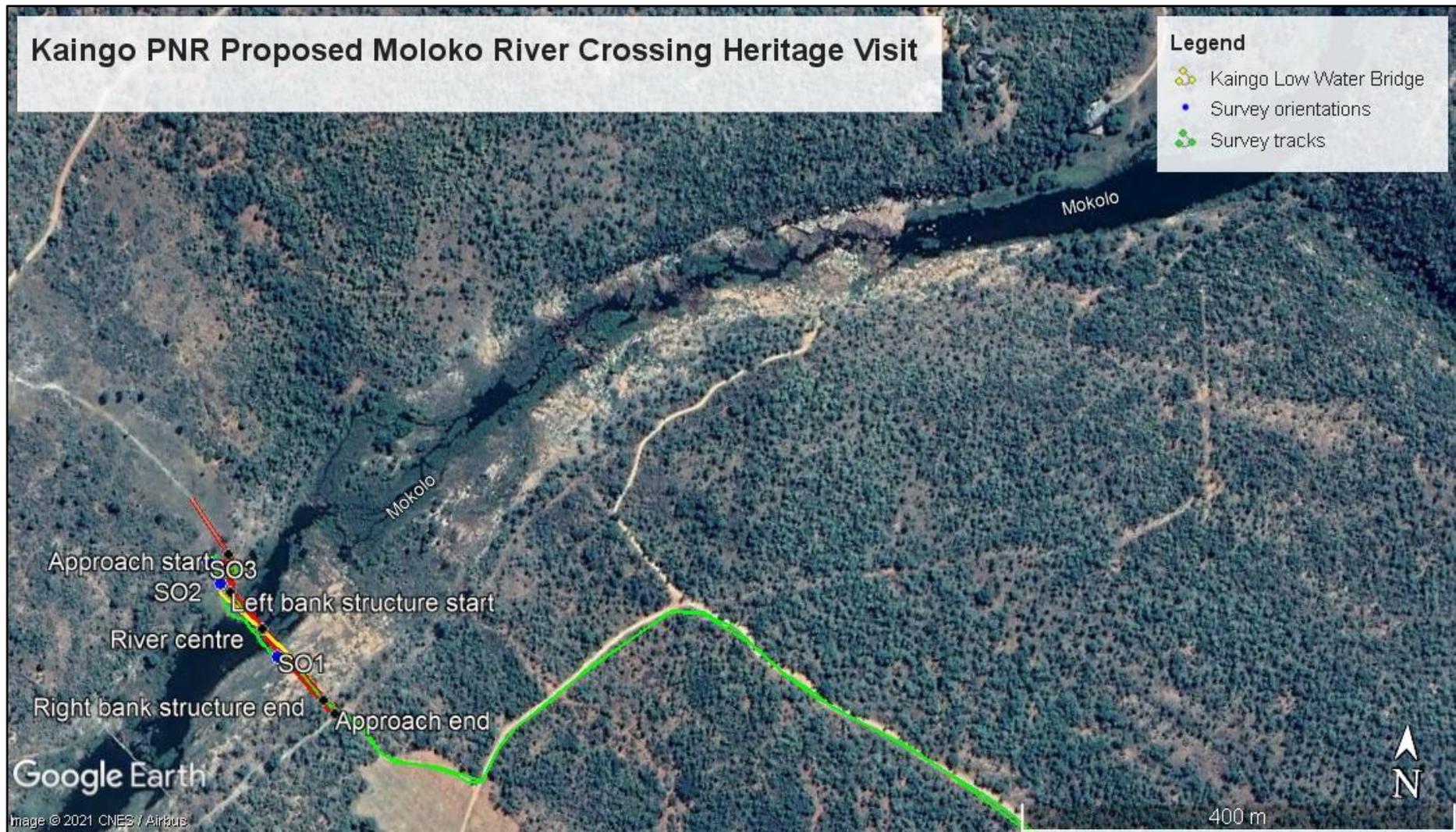


Figure 1.3. Aerial image of the study area. Google Earth 2021.

## 1. Heritage Landscape of the proposed project

### 1.1. Literature review

The following studies, obtained from the SAHRIS database, were conducted in the general vicinity of the project, and were consulted for this report:

Author	Year	Project	Findings
Roodt, F.	2007	Phase 1 Heritage Impact Assessment Report Kudu Canyon Eco-Estate on Rem Extent of the Farm Malmaniesrivier 649 LQ and Ptn 1 of the Farm Witbank 647 LQ Lephalale: Limpopo. An unpublished report by R & R Cultural Resource Consultants on file at SAHRA as: 2007-SAHRA-0397.	Late Iron Age Stone walling, grain bins, iron smelting remains and pottery.
Wadley, L	2021	Motivation to excavate middle stone age occupation in Kaingo rock shelters, Limpopo Province	Two Rock Shelters within Kaingo Nature Reserve. Stone Age flakes and Iron Age ceramics, rock art.

### 1.2. Background Study

#### Archaeological Background

None of the sites recorded as outlined under section 2.1 are near the study area.

#### Stone Age

In the district of the study area there are some known Middel Stone Age archaeological sites mostly associated with rock shelters and caves. Time periods for these range from between 100 000 years ago to approximately 30 000 years BP. Examples of these include the Cave of Hearths near Mokopane, Mwulu's Cave near the Makapan Valley, Bushman Rock Shelter near Ohrigstad and Olieboomspoor near Lephalale (Wadley, 2021). Middle Stone Age sites in the South African Interior are known as Pietersburg industry sites named after the town Pietersburg (Polokwane). They normally consist of blades and unifacial points.

Some open-air sites have also been researched in Limpopo and are mostly located below the Waterberg Escarpment (Wadley, 2021). These sites are known as Blaauwbank, Kalkbank and Wonderkrater. At least one other open-air site is associated with extensive stone tool manufacture as there is ample raw material available. This site is located on the Waterberg plateau near Vaalwater.

#### Iron Age

Although a large number of Early, Middle and Late Iron Age sites have been recorded in the broader region of the Waterberg, none have been recorded or is expected in the project area. Generally the lower valleys were dominated by sweet grasses, which were preferred.

That might explain why higher laying areas, which were dominated by sour grasses, were usually not occupied (Huffman, 1990). Early Iron Age sites contain ceramics attributed to Happy Rest and Klein Africa and also an early Diamant facies. Middle Iron Age sites with Eiland ceramics have also been recorded in the Waterberg. During the Late Iron Age settlements tend to be located on higher areas such as hilltops. Ethnographic evidence suggests an extended Nguni occupation of the area

linked to the Kekana and Langa Ndebele chiefdoms (baga Laka, Baga Seleka and Baga Letwaba) (Coetzee, 2018, see also van Warmelo, 1935:53). Moloko ceramics also occur in the area and are linked to Sotho-Tswana speakers (Huffman, 2007).

In the Waterberg, three phases of Iron Age occupation was identified by Aukema (1989). The first of these, named the Eiland tradition (11<sup>th</sup> – 13<sup>th</sup> cent.), is characterized by a herringbone decoration motif on the pottery. This was probably the last stage of the Early Iron Age and is not associated with stone-walled settlements and structures. These sites were normally located near good perennial water sources and fertile soil which was needed for growing crops.

The second phase of Iron Age occupation, known as the Late Iron Age, is characterized by stone-walled enclosures located on elevated hills and associated with undecorated pottery. They are associated with Nguni speakers, probably Ndebele, and date to between the 16<sup>th</sup> and 17<sup>th</sup> centuries AD. An example of this is the site of Melora in the Lapalala Wilderness.

A third Iron Age phase which dates to the 18<sup>th</sup> and 19<sup>th</sup> century is known to have Moloko facies pottery probably made by Sotho-Tswana farmers.

### 1.3. Site inspection

The proposed construction site was visited on 15 November 2021. During the visit the alignment of the proposed crossing as well as the immediate surrounding area was surveyed by foot. Three locations were documented for survey purposes (SO1-3 and see maps Figures 1.1-1.3) and photos was taken at each location (see figures 1.4-1.6). The survey orientation locations are indicated in Table 1 below.

**Table 1.**

Site Name	Date of compilation	GPS Coordinates		Photo figure No.
SO 1	15/11/2021	S24°04,7912'	E027°46,4560'	1.4
SO 2	15/11/2021	S24°04,7555'	E027°46,4217'	1.5
SO 3	15/11/2021	S24°04,7453'	E027°46,4147'	1.6



**Figure 1.4.** Site SO 1. Photos of the site of the proposed crossing on the eastern bank of the Mokolo River. Photos taken in a western and north western direction (l-r).



**Figure 1.5.** Site SO 2. Photos of the site of the proposed crossing on the western bank of the Mokolo River. Photos taken in an eastern and southern direction.



**Figure 1.6.** Site SO 3. Photos of the site of the proposed crossing on the western bank of the Mokolo River. Photos taken in a south eastern and southern direction.

#### **1.4. Findings**

The project footprint is very small, and will be a linear 183 meters including approaches. The crossing will take place on the sandy Mokolo riverbed and across a large section of exposed bedrock. It is clear that the rain season water levels is often high therefore no archaeological deposit is expected. It is unlikely that the proposed construction of the river crossing will impact on any heritage sites of significance and no further remedial action, or mitigation is needed.

## References

1. Aukema, J. 1989. Rain-making: a thousand year-old ritual? *South African Archaeological Bulletin* 44: 70-72.
2. Coetzee, F.P. 2018. Phase 1 Investigation for the Proposed Development of a Staff Village near South Gate in Lapalala Wilderness Reserve, Lephalale Local Municipality, Waterberg District Municipality, Limpopo Province.
3. Bergh, J.S. (ed) 1998. *Geskiedenis atlas van Suid-Afrika: Die vier noordelike provinsies*. Pretoria: JL van Schaik.
4. Huffman, T. N. 2007. *Handbook to the Iron Age: the Archaeology of Pre-Colonial Farming Societies in Southern Africa*. University of KZN Press: Pietermaritzburg.
5. National Heritage Resources Act NHRA of 1999 (Act 25 of 1999).
7. Roodt, F. 2007. Phase 1 Heritage Impact Assessment Report. Kudu Canyon Eco-Estate on Rem extent of the farm Malmaniesrivier 649 LQ and Ptn 1 of the farm Witbank 647 LQ Lephalale: Limpopo. SAHRIS.
8. South African Heritage Information System (SAHRIS).
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10. Van Warmelo, N.J. 1935. *A preliminary survey of the Bantu Tribes of South Africa*. Ethnological Publication 5. Pretoria: Department of Native Affairs.
11. Wadley, L. 2021. Motivation to excavate Middle Stone Age occupation in Kaingo rock shelters, Limpopo province. SAHRIS.