

SITE SENSITIVITY VERIFICATION REPORT

For the Development of a low-level crossing on the
Mokolo River



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SITE SENSITIVITY VERIFICATION REPORT

Executive Summary

The proposed project entails the construction of a low-level crossing to ensure year-round access to a recently acquired property (or land) on the opposite bank of the Mokolo River.

The Site Sensitivity Verification entailed a desktop analysis, using satellite imagery such as Google Earth, and a preliminary on-site inspection of two alternative sites on 27th September 2021. A separate Screening Assessment, using the Department's Screening Tool, was undertaken for each alternative site, but both reports identified the same environmental themes and levels of sensitivity. The levels of environmental sensitivity of both alternative sites were confirmed (verified), with one exception. The terrestrial biodiversity theme is rated very high by virtue of being within a CBA and Protected Area. However, the nature (linear) and location (within a watercourse) of the activity combined with the temporary nature of impacts, if any, on terrestrial biodiversity, permits the submission of a Terrestrial Biodiversity Compliance Statement. Furthermore, not all identified specialist assessments are required, specifically the landscape/visual impact and socio-economic assessments (**Table 1**). The restricted development footprint within the Mokolo River and low level of the proposed low-level crossing, will not alter the visual landscape in any way. Furthermore, the low-level crossing will be confined to a single, consolidate Private Nature Reserve for the benefit of the Management Authority during its day-to-day operations or management of the Nature

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Reserve. As such the activity does not affect or impact any broader societal needs, communities, or economies. In conclusion, 7 of the 9 identified specialist assessments will be undertaken during the assessment process (**Table 1**).

Table 1: The outcome of the site sensitivity verification (SSV) relating to the level and/or need for specialist assessments identified in the screening tool.

Environmental Theme	Environmental Sensitivity	Identified Specialist Assessments	Outcome of SSV
Agriculture	Medium	None identified	Confirmed: no need
Animal Species	High	Animal Species Assessment	Confirmed: Terrestrial Animal Species Specialist Assessment
Aquatic Biodiversity	Very High	Aquatic Biodiversity Impact Assessment	Confirmed: Aquatic Biodiversity Specialist Assessment
Archaeological & Cultural Heritage	Low	Archaeological & Cultural Heritage Impact Assessment	Confirmed: Compliance Statement (Exemption)
Civil Aviation	High	None identified	Confirmed: no need
Defence	Low	None identified	Confirmed: no need
Palaeontology	Medium	Palaeontology Impact Assessment	Confirmed: Compliance Statement (Exemption)
Plant Species	Low	Plant Species Assessment	Confirmed: Terrestrial Plant Species Compliance Statement
Terrestrial Biodiversity	Very High	Terrestrial Biodiversity Impact Assessment	Disputed: Low - Terrestrial Biodiversity Compliance Statement
		Landscape/Visual Impact Assessment	Disputed – no need
		Hydrology Assessment	Confirmed
		Socio-economic Assessment	Disputed – no need

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Whilst the authors have made every effort to verify that information provided in this report is reliable, accurate and relevant, this report is based on information that could reasonably have been sourced within the time period allocated to the report and is dependent on the information provided by management and/or its representatives.

It should, accordingly, not be assumed that all possible and applicable findings and/or measures are included in this report as any report represents a sample of the project parameters (indicators).

Legislative Background

In terms of GN 320 of 20th March 2020,

1. SITE SENSITIVITY VERIFICATION AND MINIMUM REPORT CONTENT REQUIREMENTS

Prior to commencing with a specialist assessment, the current use of the land and the environmental sensitivity of the site under consideration identified by the national web based environmental screening tool (screening tool), where determined, must be confirmed by undertaking a site sensitivity verification.

1.1 The site sensitivity verification must be undertaken by an environmental assessment practitioner or a specialist.

1.2. The site sensitivity verification must be undertaken through the use of:

- (a) a desk top analysis, using satellite imagery;
- (b) a preliminary on -site inspection; and
- (c) any other available and relevant information.

1.3. The outcome of the site sensitivity verification must be recorded in the form of a report that-

- (a) confirms or disputes the current use of the land and the environmental sensitivity as identified by the screening tool, such as new developments or infrastructure, the change in vegetation cover or status, etc.;
- (b) contains a motivation and evidence (e.g., photographs) of either the verified or different use of the land and environmental sensitivity; and
- (c) is submitted together with the relevant assessment report prepared in accordance with the requirements of the Environmental Impact Assessment Regulations¹ (EIA Regulations).

2. SPECIALIST ASSESSMENT AND MINIMUM REPORT CONTENT REQUIREMENTS

Where a specialist assessment is required and no specific environmental theme protocol has been prescribed, the required level of assessment must be based on the findings of the site sensitivity verification and must comply with Appendix 6 of the EIA Regulations.

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Project Background

Mr Jurie Willmse of Kaingo Game Reserve has recently 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 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 Site Sensitivity Verification involved an investigation of the existing sand bed crossing, as well as the preferred site further downstream. 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.

A Screening Assessment was undertaken, and the Screening Report was generated on the 27th July 2021, using the application classification **“Infrastructure Transport Services Roads Private.”**

The Site Sensitivity Verification entailed a desktop analysis, using satellite imagery such as Google Earth, and a preliminary on-site inspection of both alternative sites, which was undertaken on 27th September 2021.

Two subsequent Screening Assessments were undertaken, and the Screening Reports for both sites were generated on 30th September 2021, using the application classification **“Any activities within or close to a watercourse.”** The environmental sensitivity of these subsequent Screening Assessments is identical to the original assessment, but the identified specialist assessments do differ.

This SSV Report confirms or disputes the environmental sensitivity as identified by the screening tool, as well as the list of specialist assessments identified in the subsequent Screening Assessments, including reasons or a motivation for not including any of the identified specialist studies in the assessment process (or report).

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SITE ASSESSMENT FORM INCL. SSV**ALTERNATIVE: 1 and 2**

Applicant: Kaingo Private Game Reserve	Date: 27 September 2021
Address: Farm Laurel 159 KQ, Vaalwater	
Email: jurie@kaingo.co.za	
Cell phone: +27 (0)78 299 3437	

PROJECT TITLE

The development of a low-level crossing on the Mokolo River within the Kaingo Private Nature Reserve

Property description	<i>Enter Farm name, portion, number and registration division or Erf number etc.)</i>
	<i>The Development of a low-level crossing on the Mokolo River between Farm Laurel 159 KQ and Farm Mokolo River Private Nature Reserve 660 KQ within the Kaingo Private Nature Reserve, Waterberg District, Limpopo</i>

Site co-ordinates

Indicate the position of the activity using the latitude and longitude of the centre point of the preferred site alternative. The co-ordinates must be in degrees, minutes and seconds using the Hartebeesthoek94 WGS84 co-ordinate system.

In the case of linear activities: **Alternative Site No. 1 (preferred)**

	Latitude (S):			Longitude (E):		
• Starting point of the activity	24°	04'	48.4"	27°	46'	28.5"
• Middle point of the activity	24°	04'	46.80"	27°	46'	26.5"
• End point of the activity	24°	04'	45.5"	27°	46'	25.4"

In the case of linear activities: **Alternative Site No. 2 (existing sand bed crossing)**


	Latitude (S):			Longitude (E):		
• Starting point of the activity	24°	05'	33.6"	27°	47'	02.7"
• Middle point of the activity	24°	05'	34.70"	27°	47'	02.9"
• End point of the activity	24°	05'	35.8"	27°	47'	02.0"

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Desktop Findings	Site Confirmation	
Current land use zoning		
<i>Enter description from municipal town planning department:</i> <ul style="list-style-type: none"> TBC. 	Confirm	
	Dispute	
What is the observed land use on site: <ul style="list-style-type: none"> Conservation 		
Photograph (include photo no. from camera or phone, indicate cardinal direction the camera is facing & if possible, a GPS co-ordinate)/ description: <ul style="list-style-type: none"> We hereby verify that Kaingo Game Reserve is a declared Protected Area that falls within the core area of the Waterberg Biosphere Reserve (https://dffportal.environment.gov.za/portal/apps/webappviewer/index.html?id=7e27f116dd194c1f9d446dacc76fe483) and is currently managed solely for conservation (personal observation, and personal communication with Mr Jurie Willemse). 		


Sensitive geographical features (i.e., wetlands, dongas, ridges, steep gradient, shallow bedrock, sodic sites, etc.)		
<i>Enter description and distances of sensitive geographical features observed using satellite imagery:</i> <ul style="list-style-type: none"> Possible sodic and/or linear wetland to the North-West of the crossing. 	Confirm	
	Dispute	
If not observed, motivate: <ul style="list-style-type: none"> Not verified during the site inspection as it falls outside the proposed development footprint, and there were no indicators of sodic sites, such as <i>Euclea sp.</i> 		
Photograph (include photo no. from camera or phone, indicate cardinal direction the camera is facing & if possible, a GPS co-ordinate)/ description:		

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<p><i>Enter description and distances of sensitive geographical features observed using satellite imagery:</i></p>	<p>Confirm</p>	
<ul style="list-style-type: none"> NFEPA Wetland terminates at the Alternative Site No. 1 (preferred crossing) within the Mokolo River floodplain. Crossing falls within a CBA under the LBCP. 	<p>Dispute</p>	<p>X</p>
<p>If not observed, motivate:</p> <ul style="list-style-type: none"> The NFEPA wetland is likely to be the result of the impoundment caused by the DWS measuring weir upstream of the preferred crossing site, as weirs raise water levels and generally create wetland systems upstream. Furthermore, the amount of erosion and exposed bedrock below the weir is indicative of an anthropogenic disturbance resulting from the man-made impoundment. Suspended sediment is deposited and accumulates in low-energy areas where the water flow is slower, such as in the backwater above a weir. The lower sediment load that is transported below the weir, combined with the increased energy created by the vertical drop, is the probable cause for a larger area of exposed bedrock at Alternative Site No. 1 (preferred) compared with Alternative Site No. 2 that is above the NFEPA Wetland. 		
<p>Photograph (include photo no. from camera or phone, indicate cardinal direction the camera is facing & if possible, a GPS co-ordinate)/description: DWS measuring weir upstream of alternative Site No. 1 (preferred)</p>		
		

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<p><i>Enter description and distances of sensitive geographical features observed using satellite imagery:</i></p> <ul style="list-style-type: none"> • Mokolo River 	Confirm	
	Dispute	
<p>If not observed, motivate:</p> <ul style="list-style-type: none"> • Macro-channel bank at the proposed low water crossing, including two terraces. 		
<p>Photograph (include photo no. from camera or phone, indicate cardinal direction the camera is facing & if possible, a GPS co-ordinate)/description: Macro-channel bank/Outer bank of the compound channel.</p> 		

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Other Sensitive Elements (i.e., boreholes, SCC, limited cover material, etc.):

Description: **Alternative Site No. 1 (preferred)**

Latitude (S):			Longitude (E):		
°	'	"	°	'	"

Photograph (include photo no. from camera or phone, indicate cardinal direction the camera is facing & if possible, a GPS co-ordinate)/**description**:

- Observed plant species included *inter alia* *Cynodon dactylon*, *Eragrostis chloramelis*, *Phragmites australis*, *Aristida* sp., Boxwood (bush), *Combretum erythrophylum*, *Terminalia sericea*, *Grewia* sp., *Peltophorum africanum* and *Acacia erioloba* (Protected under NFA, 1998).

View from the middle of the Mokolo River (and proposed crossing) facing NW



View from the middle of the Mokolo River (and proposed crossing) facing SE



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Notes:

Enter a description of any noteworthy observations regarding the geographical, physical, biological, social, economic, heritage and cultural sensitivity of a site.

- No riparian vegetation will be affected by the ingress and egress of the proposed crossing as there are existing roads.
- None of the observed trees at the crossing (above) were within the proposed development footprint.

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Description: **Alternative Site No. 2 (existing sand bed crossing)**

Latitude (S):			Longitude (E):		
°	'	"	°	'	"

Photograph (include photo no. from camera or phone, indicate cardinal direction the camera is facing & if possible, a GPS co-ordinate)/**description**:

- Observed plant species included *inter alia* *Cynodon dactylon*, *Phragmites australis*, water lily, *Ziziphus macronata*, and *Acacia erioloba* (Protected under NFA, 1998).

View of the ingress to the existing sand bed crossing over the Mokolo River facing S



View of the egress at the existing sand bed crossing facing NE



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Notes:

Enter a description of any noteworthy observations regarding the geographical, physical, biological, social, economic, heritage and cultural sensitivity of a site.

- No riparian vegetation will be affected by the ingress and egress of the proposed crossing as there are existing roads.
- None of the observed trees at the crossing (above) were within the proposed development footprint.

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AGRICULTURE THEME				
Sensitivity Rating	VERY HIGH	HIGH	MEDIUM	LOW
<p>Enter Environmental Sensitivity Rating from the Screening Report by ticking the applicable box.</p>	<p>Land capability evaluation values of 11 – 15; all irrigated land; horticulture and viticulture; demarcated high value agricultural areas with a priority rating of A and/or B. These areas are potentially unsuitable for development owing to:</p> <ul style="list-style-type: none"> - high agricultural value & preservation importance; - high production capability; - high capital investment made; <p>or</p> <ul style="list-style-type: none"> - unique agricultural land attributes. <div style="text-align: center;"> <input type="checkbox"/> </div>	<p>Land capability evaluation values of 8 - 10 including all cultivated areas including sugar cane areas and demarcated high value agricultural areas with a priority rating of C and/or D. High sensitivity areas are still preservation worthy since they include land with an agricultural production potential and suitability for specific crops.</p> <div style="text-align: center;"> <input type="checkbox"/> </div>	<p>Land capability evaluation values of 6 – 7. Medium sensitivity areas are likely to be very marginal arable land.</p> <div style="text-align: center;"> <input checked="" type="checkbox"/> </div>	<p>Land capability evaluation values of 1 – 5. Low sensitivity areas are likely to be non-arable land and is therefore land onto which most development should be steered.</p> <div style="text-align: center;"> <input type="checkbox"/> </div>
Assessment	Agricultural Agro-Ecosystem Specialist Assessment		Agricultural Compliance Statement	
Exemption(s)	<p>An applicant intending to undertake an activity identified in the scope of this protocol on a site identified by the screening tool as being of “medium” or “low” sensitivity for agricultural resources must submit an Agricultural Compliance Statement.</p> <p>If the application is for a linear activity for which impacts on the agricultural resource are temporary and the land in the opinion of the soil scientist or agricultural specialist, based on the mitigation and remedial measures, can be returned to the current land capability within two years of the completion of the construction phase; or the impact on agricultural resources is from an electricity pylon, then an Agricultural Compliance Statement can be submitted.</p>			
Enter Env. Sensitivity Features from the SR.	Medium	Land capability;06. Low-Moderate/07. Low-Moderate/08. Moderate		

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Desktop Findings (enter description of findings from comparing/overlaying the Screening Tools spatial imagery of the theme with satellite imagery and other spatial plans):

- The crossing falls within a conservation area, but agricultural activities are evident downstream, with the closest centre pivot approximately 3.2km away.

Motivation for Sensitivity Rating (incl. actual rating if different from the Screening Tool):

- The screening tool identified a medium sensitivity for the agriculture theme but did not identify a need for the corresponding Agricultural Compliance Statement. We agree that an assessment is not required because the affected property is a declared protected area that is managed for conservation and is not used for agriculture. Furthermore, the development footprint of the proposed low water crossing will not impact on any land outside the edge of the watercourse or macro-channel bank.

Photograph (include photo no. from phone or camera, indicate cardinal direction the camera is facing and if possible, a GPS co-ordinate):


A view (facing NW) of the ingress to Alternative Site No. 1 (preferred).



A view (facing SW) of the edge of the macro-channel bank, including a terrace and high terrace, at the ingress to Alternative Site No. 1 (preferred).



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ANIMAL SPECIES THEME				
Sensitivity Rating	VERY HIGH	HIGH	MEDIUM	LOW
<p><i>Enter Environmental Sensitivity Rating from the Screening Report by ticking the applicable box.</i></p>	<p>1. Critical habitat for range-restricted species (species with a geographically restricted area of distribution) of conservation concern, that have a global range of less than 10 km². 2. SCC listed on the IUCN Red List of Threatened Species or on South Africa's National Red List website as Critically Endangered, Endangered or Vulnerable according to the IUCN Red List 3.1. Categories and Criteria or listed as Nationally Rare. 3. Species aggregations that represent ≥1% of the global population size of a species, over a season, and during one or more key stages of its life cycle. 4. The number of mature individuals that ranks the site among the largest 10 aggregations known for the species.</p> <p>These areas are irreplaceable for SCC.</p> <div style="text-align: center;"> <input type="checkbox"/> </div>	<p>1. Confirmed habitat for SCC. 2. SCC, listed on the IUCN Red List of Threatened Species or South Africa's National Red List website as Critically Endangered, Endangered or Vulnerable, according to the IUCN Red List 3.1. Categories and Criteria and under the national category of Rare.</p> <p>These areas are unsuitable for development due to a very likely impact on SCC.</p> <div style="text-align: center;">  </div>	<p>1. Suspected habitat for SCC based either on historical records (prior to 2002) or being a natural area included in a habitat suitability model for this species. 2. SCC listed on the IUCN Red List of Threatened Species or South Africa's National Red List website as Critically Endangered, Endangered or Vulnerable according to the IUCN Red List 3.1. Categories and Criteria and under the national category of Rare.</p> <div style="text-align: center;"> <input type="checkbox"/> </div>	<p>1. Areas where no natural habitat remains. 2. Natural areas where there is no suspected occurrence of SCC.</p> <div style="text-align: center;"> <input type="checkbox"/> </div>
Assessment	Terrestrial Animal Species Specialist Assessment		Terrestrial Animal Species Specialist Assessment	Terrestrial Animal Species Compliance Statement
Exemption(s)	An applicant intending to undertake an activity on a site identified by the screening tool as being of "high sensitivity" for terrestrial animal species			


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	<p>must submit a Terrestrial Animal Species Specialist Assessment Report.</p> <p>Where the information gathered from the site sensitivity verification differs from the screening tool designation of “very high” or “high”, for terrestrial animal species sensitivity and it is found to be of a “low” sensitivity, then a Terrestrial Animal Species Compliance Statement must be submitted.</p>																		
<p>Enter Env. Sensitivity Features from the SR.</p>	<table border="1"> <tr> <td>High</td><td>Sensitive species 1</td><td>TBC</td></tr> <tr> <td>Medium</td><td>Mammalia-<i>Acinonyx jubatus</i></td><td>Cheetah</td></tr> <tr> <td>Medium</td><td>Mammalia-<i>Dasymys robertsii</i></td><td>African Marsh Rat</td></tr> <tr> <td>Medium</td><td>Mammalia-<i>Lycaon pictus</i></td><td>Wild Dog</td></tr> <tr> <td>Medium</td><td>Sensitive species 1</td><td>TBC</td></tr> <tr> <td>Medium</td><td>Sensitive species 12</td><td>TBC</td></tr> </table>	High	Sensitive species 1	TBC	Medium	Mammalia- <i>Acinonyx jubatus</i>	Cheetah	Medium	Mammalia- <i>Dasymys robertsii</i>	African Marsh Rat	Medium	Mammalia- <i>Lycaon pictus</i>	Wild Dog	Medium	Sensitive species 1	TBC	Medium	Sensitive species 12	TBC
High	Sensitive species 1	TBC																	
Medium	Mammalia- <i>Acinonyx jubatus</i>	Cheetah																	
Medium	Mammalia- <i>Dasymys robertsii</i>	African Marsh Rat																	
Medium	Mammalia- <i>Lycaon pictus</i>	Wild Dog																	
Medium	Sensitive species 1	TBC																	
Medium	Sensitive species 12	TBC																	
<p>Desktop Findings (enter description of findings from comparing/overlaying the Screening Tools spatial imagery of the theme with satellite imagery and other spatial plans):</p> <ul style="list-style-type: none"> <i>Dasymys robertsii</i> (https://www.ewt.org.za/wp-content/uploads/2019/02/9.-African-Marsh-Rat-Dasymys-spp_VU.pdf) African Marsh Rats are dependent on intact rivers and wetland ecosystems, as they have not been found in artificial or degraded wetlands. The abundances and population sizes of these species is unknown. They are rare and exist at low densities. They have not been recorded from agricultural landscapes or dam areas. They occur specifically in reed beds and among semi-aquatic grasses in wetlands or swampy areas or along rivers and streams, as well as in grassy areas close to water. African Marsh Rats construct complex, intricately woven nests in holes along the banks of rivers and ponds (Pillay 2003). Nests extend into water and might serve as a bolt hole during attack from predators. Sub- and above-surface runways extend from the nest cavities and would serve as travel routes. These rodents are opportunistic omnivores, feeding predominantly on the succulent stems and fruiting heads of semi-aquatic grasses (Skinner & Chimimba 2005), supplementing their diets with insects, especially during reproduction (Pillay 2003). 																			
<p>Motivation for Sensitivity Rating (incl. actual rating if different from the Screening Tool):</p> <ul style="list-style-type: none"> No recorded observations of the African Marsh Rat at both alternative sites (pers. comm. Mr Jurie Willemse). No visible signs, including holes along the banks of the Mokolo River or sub- and above-surface runways extending from potential nest cavities, were observed at both alternative sites. There are, however, other SCC associated with rivers, including those not identified in the screening tool, such as Sensitive Species 2. We therefore concur with the high sensitivity rating and support the identified Terrestrial Animal Species Specialist Assessment. 																			
<p>Photograph (include photo no. from phone or camera, indicate cardinal direction the camera is facing and if possible, a GPS co-ordinate):</p> <ul style="list-style-type: none"> na 																			



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PLANT SPECIES THEME				
Sensitivity Rating	VERY HIGH	HIGH	MEDIUM	LOW
<p>Enter Environmental Sensitivity Rating from the Screening Report by ticking the applicable box.</p>	<p>1. Critical habitat for range-restricted species (species with a geographically restricted area of distribution) of conservation concern, that have a global range of less than 10 km². 2. SCC listed on the IUCN Red List of Threatened Species or on South Africa's National Red List website as Critically Endangered, Endangered or Vulnerable according to the IUCN Red List 3.1. Categories and Criteria or listed as Nationally Rare. 3. Species aggregations that represent ≥1% of the global population size of a species, over a season, and during one or more key stages of its life cycle. 4. The number of mature individuals that ranks the site among the largest 10 aggregations known for the species.</p> <p>These areas are irreplaceable for SCC.</p> <div><input type="checkbox"/></div>	<p>1. Confirmed habitat for SCC. 2. SCC, listed on the IUCN Red List of Threatened Species or South Africa's National Red List website as Critically Endangered, Endangered or Vulnerable, according to the IUCN Red List 3.1. Categories and Criteria and under the national category of Rare.</p> <p>These areas are unsuitable for development due to a very likely impact on SCC.</p> <div><input type="checkbox"/></div>	<p>1. Suspected habitat for SCC based either on historical records (prior to 2002) or being a natural area included in a habitat suitability model. 2. SCC listed on the IUCN Red List of Threatened Species or South Africa's National Red List website as Critically Endangered, Endangered or Vulnerable according to the IUCN Red List 3.1. Categories and Criteria and under the national category of Rare.</p> <div><input type="checkbox"/></div>	<p>1. Areas where no natural habitat remains. 2. Natural areas where there is no suspected occurrence of SCC.</p> <div><input checked="" type="checkbox"/></div>
Assessment	Terrestrial Plant Species Specialist Assessment		Terrestrial Plant Species Specialist Assessment	Terrestrial Plant Species Compliance Statement
Exemption(s)	An applicant intending to undertake an activity on a site identified by the			

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	screening tool as being of “medium sensitivity” for terrestrial plant species must submit either a Terrestrial Plant Species Specialist Assessment Report or a Terrestrial Plant Species Compliance Statement , depending on the outcome of a site inspection.				
Enter Env. Sensitivity Features from the SR.	<table border="1"> <tr> <th>Sensitivity</th><th>Feature(s)</th></tr> <tr> <td>Low</td><td>Low sensitivity</td></tr> </table>	Sensitivity	Feature(s)	Low	Low sensitivity
Sensitivity	Feature(s)				
Low	Low sensitivity				
Desktop Findings (enter description of findings from comparing/overlaying the Screening Tools spatial imagery of the theme with satellite imagery and other spatial plans): <ul style="list-style-type: none"> Plant communities are well represented and protected within the game reserve, while several degraded sites are near the proposed crossing including, old lands, an airstrip and cleared areas in front of a lodge. 					
Motivation for Sensitivity Rating (incl. actual rating if different from the Screening Tool): <ul style="list-style-type: none"> We support the Low sensitivity rating identified in the screening report, specifically relating to natural areas where there is no suspected occurrence of SCC. Although <i>Acacia erioloba</i> is protected under the NFA, 1998, it is listed as Least Concern on the IUCN Red List of Threatened Species (https://www.iucnredlist.org/search?query=Acacia%20erioloba&searchType=species). Furthermore, the only plants that are likely to be affected by the proposed low-level crossing include those growing in the active channel and on the flood bench (inundated by annual flood), such as <i>Cynodon dactylon</i>, <i>Phragmites australis</i>, and <i>Nuphar sp.</i> (water lily). No riparian vegetation (trees) will be affected by the approaches to both sites as there are existing roads, and they will not be widened. 					
Photograph (include photo no. from phone or camera, indicate cardinal direction the camera is facing and if possible, a GPS co-ordinate): View (facing SW) of the existing approach through the riparian habitat at Alternative Site No. 2					
					

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AQUATIC BIODIVERSITY THEME						
Sensitivity Rating	VERY HIGH	LOW				
Enter Environmental Sensitivity Rating from the Screening Report by ticking the applicable box.	- for aquatic biodiversity features. 	- for aquatic biodiversity features. 				
Assessment	Aquatic Biodiversity Specialist Assessment	Aquatic Biodiversity Compliance Statement				
Exemption(s)	<p>An applicant intending to undertake an activity identified in the scope of this protocol on a site identified on the screening tool as being of “very high sensitivity” for aquatic biodiversity, must submit an Aquatic Biodiversity Specialist Assessment.</p> <p>If the application is for a linear activity for which impacts on the aquatic biodiversity are temporary and the land in the opinion of the aquatic scientist, based on the mitigation and remedial measures, can be returned to the current state within two years of the completion of the construction phase, then an Aquatic Biodiversity Compliance Statement can be submitted.</p>					
Enter Env. Sensitivity Features from the Screening Report.	<table border="1"> <thead> <tr> <th>Sensitivity</th> <th>Feature(s)</th> </tr> </thead> <tbody> <tr> <td>Very High</td> <td>Wetlands and Estuaries</td> </tr> </tbody> </table>		Sensitivity	Feature(s)	Very High	Wetlands and Estuaries
Sensitivity	Feature(s)					
Very High	Wetlands and Estuaries					
Desktop Findings (<i>enter description of findings from comparing/overlaying the Screening Tools spatial imagery of the theme with satellite imagery and other spatial plans</i>): <ul style="list-style-type: none"> The low-level crossing is within a perennial river and may affect <i>inter alia</i> the flow regime of the river, impact aquatic biota and vegetation, the extent of which will depend on the design. 						
Motivation for Sensitivity Rating (<i>incl. actual rating if different from the Screening Tool</i>): <ul style="list-style-type: none"> A Very High sensitivity is supported as the requisite Aquatic Biodiversity Specialist Assessment will further support the application for Water Use Authorisation by way of a General Authorisation or Water Use License. 						
Photograph (<i>include photo no. from phone or camera, indicate cardinal direction the camera is facing and if possible, a GPS co-ordinate</i>): View of the Mokolo River (facing upstream) from the middle of Alternative Site No. 1 (preferred).						

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View of the Mokolo River (facing downstream) from the middle of Alternative Site No. 1 (preferred).



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TERRESTRIAL BIODIVERSITY THEME										
Sensitivity Rating	VERY HIGH	LOW								
Enter Environmental Sensitivity Rating from the Screening Report by ticking the applicable box.	- for terrestrial biodiversity features. 	- for terrestrial biodiversity features. 								
Assessment	Terrestrial Biodiversity Specialist Assessment	Terrestrial Biodiversity Compliance Statement								
Exemption(s)	<p>An applicant intending to undertake an activity identified in the scope of this protocol, on a site identified on the screening tool as being of “very high sensitivity” for terrestrial biodiversity, must submit a Terrestrial Biodiversity Specialist Assessment.</p> <p>If the application is for a linear activity for which impacts on the terrestrial biodiversity are temporary and the land in the opinion of the terrestrial biodiversity specialist, based on the mitigation and remedial measures, can be returned to the current state within two years of the completion of the construction phase, then a Terrestrial Biodiversity Compliance Statement can be submitted.</p>									
Enter Environmental Sensitivity Features from the Screening Report.	<table border="1"> <thead> <tr> <th>Sensitivity</th> <th>Feature(s)</th> </tr> </thead> <tbody> <tr> <td>Very High</td> <td>Critical Biodiversity Area 1</td> </tr> <tr> <td>Very High</td> <td>Focus Areas for land-based protected areas expansion</td> </tr> <tr> <td>Very High</td> <td>South African Protected Areas</td> </tr> </tbody> </table>		Sensitivity	Feature(s)	Very High	Critical Biodiversity Area 1	Very High	Focus Areas for land-based protected areas expansion	Very High	South African Protected Areas
Sensitivity	Feature(s)									
Very High	Critical Biodiversity Area 1									
Very High	Focus Areas for land-based protected areas expansion									
Very High	South African Protected Areas									
<p>Desktop Findings (enter description of findings from comparing/overlaying the Screening Tools spatial imagery of the theme with satellite imagery and other spatial plans):</p> <ul style="list-style-type: none"> The proposed low-level crossing will have limited impact on terrestrial biodiversity, considering the proposed development footprint will be restricted to the edge of the watercourse or macro-channel bank. Furthermore, there are existing approaches to both alternative sites. This road will not be widened. 										
<p>Motivation for Sensitivity Rating (incl. actual rating if different from the Screening Tool):</p> <ul style="list-style-type: none"> We dispute the very high sensitivity rating and motivate instead for a Low sensitivity rating, within the context of the proposed development footprint, which will be restricted to the edge of the watercourse or macro-channel bank. Furthermore, there are existing approaches, which will not be widened. Furthermore, the terrestrial biodiversity features or reasons for the very high sensitivity rating, specifically being within a CBA and Protected Area, will not be negatively impacted by the proposed development. In fact, the proposed infrastructure is intended to facilitate the Management Authority's conservation mandate, including the pursuit of 										

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any biodiversity targets and the purpose for which the protected area was declared.

- Finally, the application is for a **linear activity** for which impacts on the terrestrial biodiversity, if any, will be temporary and the land can be returned to the current state within two years of the completion of the construction phase.
- We therefore support a Terrestrial Biodiversity Compliance Statement.

Photograph (*include photo no. from phone or camera, indicate cardinal direction the camera is facing and if possible, a GPS co-ordinate*):

- na

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DEFENCE THEME								
Sensitivity Rating	VERY HIGH	HIGH	MEDIUM	LOW				
Enter Environmental Sensitivity Rating from the Screening Report by ticking the applicable box.	high likelihood for negative impacts on the defence installation. In-depth assessment of the potential impacts and mitigation measures are likely to be required before development can be considered in these areas.	potential for negative impacts on the defence installation that can potentially be mitigated. Further assessment may be required to investigate potential impacts and mitigation measures.	low potential for negative impacts on the defence installation, and if there are impacts there is a high likelihood of mitigation. Further assessment of the potential impacts may not be required.	No negative impacts on the defence installation are expected in low sensitivity areas. It is unlikely for further assessment and mitigation measures to be required.				
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
Assessment	Defence Compliance Statement			No requirement identified.				
Exemption(s)	None.							
Enter Environmental Sensitivity Features from the Screening Report.	<table border="1"> <thead> <tr> <th>Sensitivity</th> <th>Feature(s)</th> </tr> </thead> <tbody> <tr> <td>Low</td> <td>Low Sensitivity</td> </tr> </tbody> </table>				Sensitivity	Feature(s)	Low	Low Sensitivity
Sensitivity	Feature(s)							
Low	Low Sensitivity							
Desktop Findings (enter description of findings from comparing/overlaying the Screening Tools spatial imagery of the theme with satellite imagery and other spatial plans):								
Motivation for Sensitivity Rating (incl. actual rating if different from the Screening Tool):								
<ul style="list-style-type: none"> The Low sensitivity rating is supported as the activity will have no impact on <i>inter alia</i> radar systems in the area. 								
Photograph (include photo no. from phone or camera, indicate cardinal direction the camera is facing and if possible, a GPS co-ordinate):								

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CIVIL AVIATION THEME				
Sensitivity Rating	VERY HIGH	HIGH	MEDIUM	LOW
Enter Environmental Sensitivity Rating from the Screening Report by ticking the applicable box.	high likelihood for negative impacts on the civil aviation installation. In-depth assessment of the potential impacts and mitigation measures are likely to be required before development can be considered in these areas. <input type="checkbox"/>	potential for negative impacts on the civil aviation installation that can potentially be mitigated. Further assessment may be required to investigate potential impacts and mitigation measures. <input checked="" type="checkbox"/>	low potential for negative impacts on the civil aviation installation, and if there are impacts there is a high likelihood of mitigation. Further assessment of the potential impacts may not be required. <input type="checkbox"/>	No negative impacts on the civil aviation installation are expected in low sensitivity areas. It is unlikely for further assessment and mitigation measures to be required. <input type="checkbox"/>
Assessment	Civil Aviation Compliance Statement			No requirement identified.
Exemption(s)	None.			
Enter Env. Sensitivity Features from the SR.	<div>High</div> <div>Within 8 km of other civil aviation aerodrome</div>			
Desktop Findings (enter description of findings from comparing/overlaying the Screening Tools spatial imagery of the theme with satellite imagery and other spatial plans): <ul style="list-style-type: none"> A private airstrip is approximately 500m away from the proposed crossing. The low water crossing will have no impact on the function of the strip and no other airstrips are evident on satellite imagery. 				
Motivation for Sensitivity Rating (incl. actual rating if different from the Screening Tool): <ul style="list-style-type: none"> A low civil aviation sensitivity rating is proposed as no negative impacts on any civil aviation installation are expected, given the height of the proposed low-level crossing, which shall not exceed an existing DWS measuring weir in the river between the two alternative sites. Furthermore, the structure does not represent sensitive noise receptors, nor will it be lit. No further assessment or mitigation measures are required. 				
Photograph (include photo no. from phone or camera, indicate cardinal direction the camera is facing and if possible, a GPS co-ordinate): <ul style="list-style-type: none"> na 				

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ARCHAEOLOGICAL AND CULTURAL HERITAGE THEME								
Sensitivity Rating	VERY HIGH	HIGH	MEDIUM	LOW				
Enter Environmental Sensitivity Rating from the Screening Report by ticking the applicable box.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				
Assessment	Specialist Assessment	Specialist Assessment	Specialist Assessment or Compliance Statement	Compliance Statement				
	The required level of assessment must be based on the findings of the site sensitivity verification and must comply with Appendix 6 of the EIA Regulations.							
Exemption(s)	None.							
Enter Env. Sensitivity Features from the SR.	<table border="1"> <thead> <tr> <th>Sensitivity</th> <th>Feature(s)</th> </tr> </thead> <tbody> <tr> <td>Low</td> <td>Low Sensitivity</td> </tr> </tbody> </table>				Sensitivity	Feature(s)	Low	Low Sensitivity
Sensitivity	Feature(s)							
Low	Low Sensitivity							
Desktop Findings (enter description of findings from comparing/overlaying the Screening Tools spatial imagery of the theme with satellite imagery and other spatial plans): <ul style="list-style-type: none"> The National Heritage Resources Act (1999) lists activities under Section 38 entitled "Heritage resources management" which need to be reported to SAHRA and possibly investigated and assessed including: (a) the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length. Additionally, Section 36 addressed graves and burial grounds which may be exposed during excavation activities. 								
Motivation for Sensitivity Rating (incl. actual rating if different from the Screening Tool): <ul style="list-style-type: none"> A low sensitivity is supported as both sites are confined to the edge of the watercourse or macro-channel bank. The in-situ material is either solid bedrock or recent alluvial sediments deposited by flood events. Perennial watercourses, including their bed & banks, are dynamic environments under constant change and therefore unlikely to support artefacts. An exemption letter will be presented to SAHRA. 								
Photograph (include photo no. from phone or camera, indicate cardinal direction the camera is facing and if possible, a GPS co-ordinate): View (facing NW) of the in-situ substrate (bedrock) at in the middle of the Mokolo River at Alternative Site No. 1 (preferred).								

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View (facing NW) of the in-situ substrate (alluvial sediment) at ingress to Alternative Site No. 1 (ptpreferred).



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PALEONTOLOGY THEME								
Sensitivity Rating	VERY HIGH	HIGH	MEDIUM	LOW				
<i>Enter Environmental Sensitivity Rating from the Screening Report by ticking the applicable box.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>				
Assessment	Specialist Assessment	Specialist Assessment	Specialist Assessment or Compliance Statement	Compliance Statement				
	The required level of assessment must be based on the findings of the site sensitivity verification and must comply with Appendix 6 of the EIA Regulations.							
Exemption(s)	None.							
<i>Enter Environmental Sensitivity Features from the Screening Report.</i>	<table border="1"> <thead> <tr> <th>Sensitivity</th> <th>Feature(s)</th> </tr> </thead> <tbody> <tr> <td>Medium</td> <td>Features with a Medium paleontological sensitivity</td> </tr> </tbody> </table>				Sensitivity	Feature(s)	Medium	Features with a Medium paleontological sensitivity
Sensitivity	Feature(s)							
Medium	Features with a Medium paleontological sensitivity							

Desktop Findings (enter description of findings from comparing/overlaying the Screening Tools spatial imagery of the theme with satellite imagery and other spatial plans):

- The National Heritage Resources Act (1999) lists activities under Section 35 entitled "Archaeology, palaeontology and meteorites." Sub-section (3) & (4) requires any person who discovers a palaeontology artefact to notify SAHRA after which the artefact/s may not be moved without a permit.

Motivation for Sensitivity Rating (incl. actual rating if different from the Screening Tool):

- A low sensitivity is supported as both sites are confined to the edge of the watercourse or macro-channel bank. The in-situ material is either solid bedrock, specifically feldspatic sandstone with lesser arkose, siltstone, and shale from the Vaalwater Formation of the Kransberg Sub-group of the Waterberg Group (geological maps issued by the Council for Geoscience) or recent alluvial sediments deposited by flood events. Fossils are more common in some kinds of sedimentary rocks than others. Fossils are most common in limestones and least common in sandstones. Besides the crossing structure will be secured to the bedrock by drilling into it. The bedrock will not be blasted. An exemption letter will be presented to SAHRA.

Photograph (include photo no. from phone or camera, indicate cardinal direction the camera is facing and if possible, a GPS co-ordinate):

- na

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Identified Specialist Assessments (without Environmental Themes)

(a) Landscape/visual impact assessment

The restricted development footprint within the Mokolo River and low level of the proposed water crossing, will not alter the visual landscape in any way. The proposed infrastructure will be less visually intrusive than the existing weir.

(b) Hydrology Assessment

A Hydrology Assessment is required. The level of assessment is to be determined by the Hydrologist.

(c) Socio-economic assessment

The low-level crossing will be confined to a single, consolidate Private Nature Reserve for the benefit of the Management Authority during its day-to-day operations or management of the Nature Reserve. As such the activity does not affect or impact any broader societal needs, communities, or economies. Any socio-economic impacts can therefore be adequately assessed during an investigation of "Need and Desirability" and does not require any further assessment.

Please do not hesitate to contact Mr Shaun MacGregor (064 885 2240) should you have any queries or concerns relating to this report.



Shaun MacGregor (*MSc., Pr. Sci. Nat.*)

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