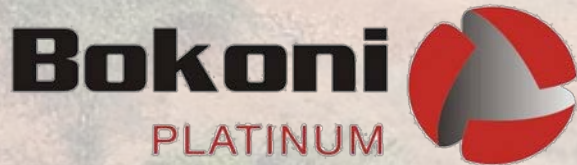


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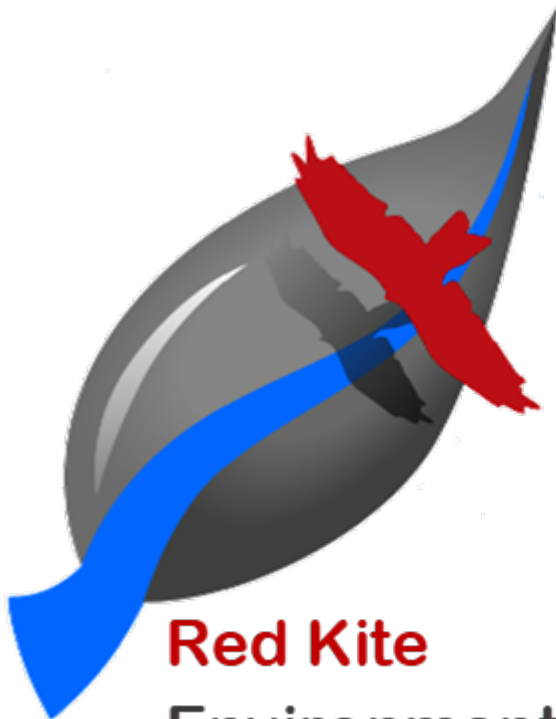
BASIC ASSESSMENT REPORT

FOR
**BOKONI PLATINUM MINES:
COMMUNITY BRIDGE PROJECT**



ON
**FARM MIDDELPUNT 420 KS
LIMPOPO PROVINCE**

JULY 2022



Red Kite
Environmental Solutions

Red Kite Environmental Solutions (Pty) Ltd

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LIMPOPO

PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF ECONOMIC DEVELOPMENT, ENVIRONMENT & TOURISM

BASIC ASSESSMENT REPORT - EIA REGULATIONS, 2014

Basic Assessment report in terms of the Environmental Impact Assessment Regulations, 2014, promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended.

File Reference Number:

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NEAS Reference Number:

(For official use only)

Date Received:

Due date for acknowledgement:

Due date for acceptance:

Due date for decision

Kindly note that:

1. The report must be compiled by an independent Environmental Assessment Practitioner.
2. The report must be typed within the spaces provided in the form. The size of the spaces provided is not necessarily indicative of the amount of information to be provided. The report is in the form of a table that can extend itself as each space is filled with typing.
3. Where applicable **tick** the boxes that are applicable in the report.
4. The use of "not applicable" in the report must be done with circumspection because if it is used in respect of material information that is required by the Department of Economic Development, Environment and Tourism as the competent authority (Department) for assessing the application, it may result in the rejection of the application as provided for in the regulations.
5. An incomplete report may be returned to the applicant for revision.
6. Unless protected by law, all information in the report will become public information on receipt by the department. Any interested and affected party should be provided with the information contained in this report on request, during any stage of the application process.

7. The Act means the National Environmental Management Act (No. 107 of 1998) as amended.
8. Regulations refer to Environmental Impact Assessment (EIA) Regulations of 2014.
9. The Department may require that for specified types of activities in defined situations only parts of this report need to be completed. No faxed or e-mailed reports will be accepted.
10. This application form must be handed in at the offices of the Department of Economic Development, Environment and Tourism:-

<p><u>Postal Address:</u></p> <p>Central Administration Office Environmental Impact Management P. O. Box 55464 POLOKWANE 0700</p>	<p><u>Physical Address:</u></p> <p>Central Administration Office Environmental Affairs Building 20 Hans Van Rensburg Street / 19 Biccard Street POLOKWANE 0699</p>
<p>Queries should be directed to the Central Administration Office: Environmental Impact Management:-</p> <p>For attention: Mr E. V. Maluleke Mobile: 082 947 7755 Email: malulekeev@ledet.gov.za</p>	

View the Department's website at <http://www.ledet.gov.za/> for the latest version of the documents.

SECTION A: ACTIVITY INFORMATION

Has a specialist been consulted to assist with the completion of this section?

NO

If YES, please complete the form entitled "Details of specialist and declaration of interest" or appointment of a specialist for each specialist thus appointed:

Any specialist reports must be contained in Appendix D.

1. ACTIVITY DESCRIPTION

Describe the activity, which is being applied for, in detail¹:

Project Background

Bokoni Platinum Mines (Pty) Ltd proposes to construct a bridge over a non-perennial tributary of the Rapholo River. The bridge construction is being undertaken as part of the Social and Labour Plan initiatives of BPM.

The proposed bridge will replace the current dirt road crossing the drainage line. Due to the current crossing being a dirt road across the river, the community including school children and workers cannot cross over the river during rainy days as the river gets flooded and hence, they cannot go to school, health facilities, work, shops, etc. Furthermore, the dirt road crossing often becomes damaged during rain events, leading to difficulties traversing the road until the road has been repaired.

The proposed bridge is situated on the farm Middelpunt 420 KS, between Polokwane and Burgersfort off the R37. The project area is located in the Fetakgomo Tubatse Local Municipality of the Sekhukhune District Municipality.

Description of the Proposed Project Activities

The proposed project entails the construction of a two-way vehicular and two-way pedestrian's walkway bridge over a non-perennial tributary of the Rapholo River as follows:

- The size of the proposed bridge will be approximately 52 m in length, 17 m width and 4 m in height (top of handrail).
- Installation of three 2500 mm x 2000 mm portal culverts (52 m)
- Construction (upgrade) of 450 m access road (gravel).
 - Two (2) traffic lanes of 3.5 m width
 - Two (2) pedestrian sidewalks, each effectively 1,3 m wide
- Installation of gabions and reno mattress
- Construction of wing wall and headwalls
- Stone pitching
- Installation of steel guardrails along the deck edges, extended to provide a pedestrian steel handrail
- Erection of road signs
- The total footprint of the project which includes the proposed bridge and road upgrade is approximately 9 600 m² in extent.

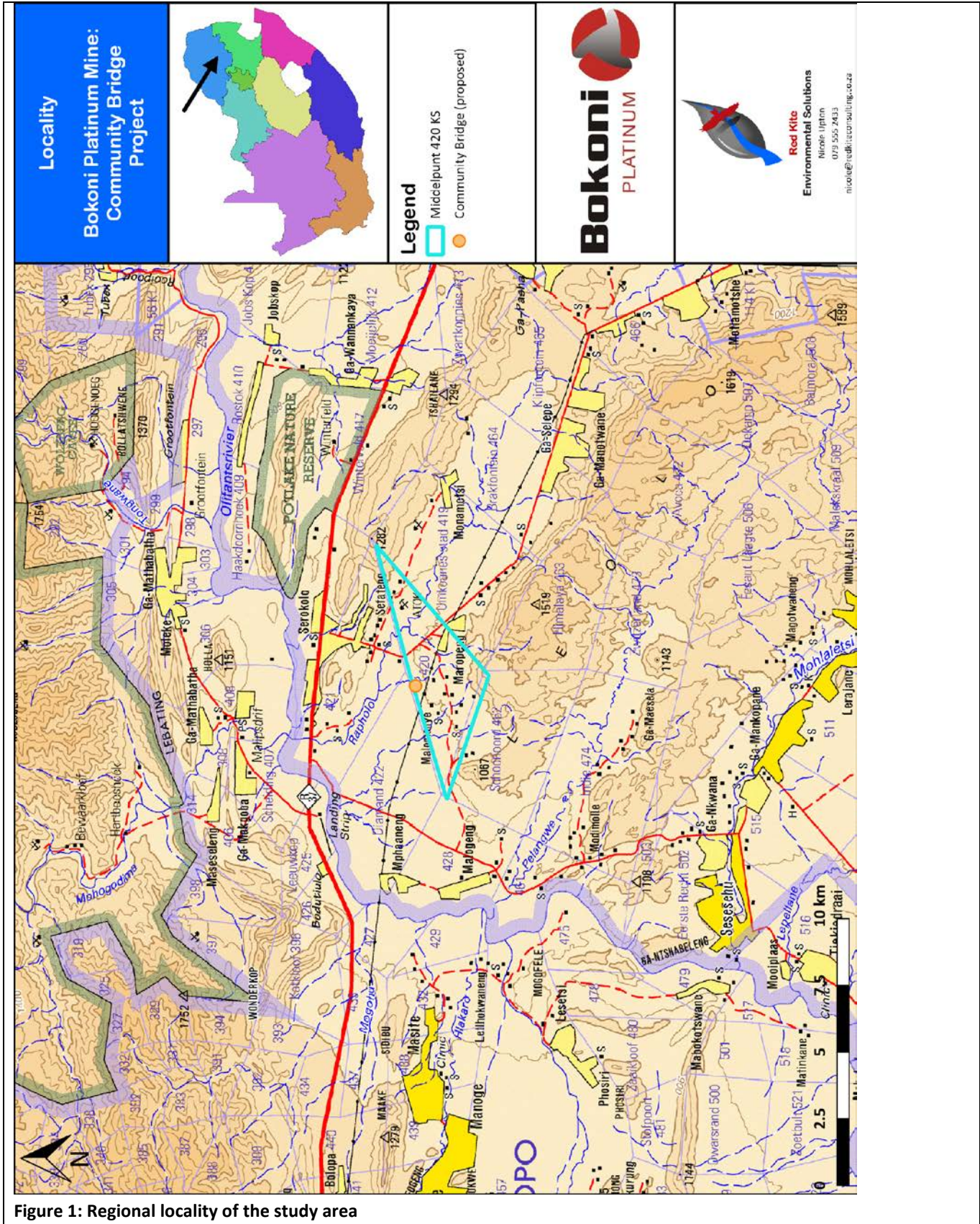
¹ Please note that this description should not be a verbatim repetition of the listed activity as contained in the relevant Government Notice, but should be a brief description of activities to be undertaken as per the project description.

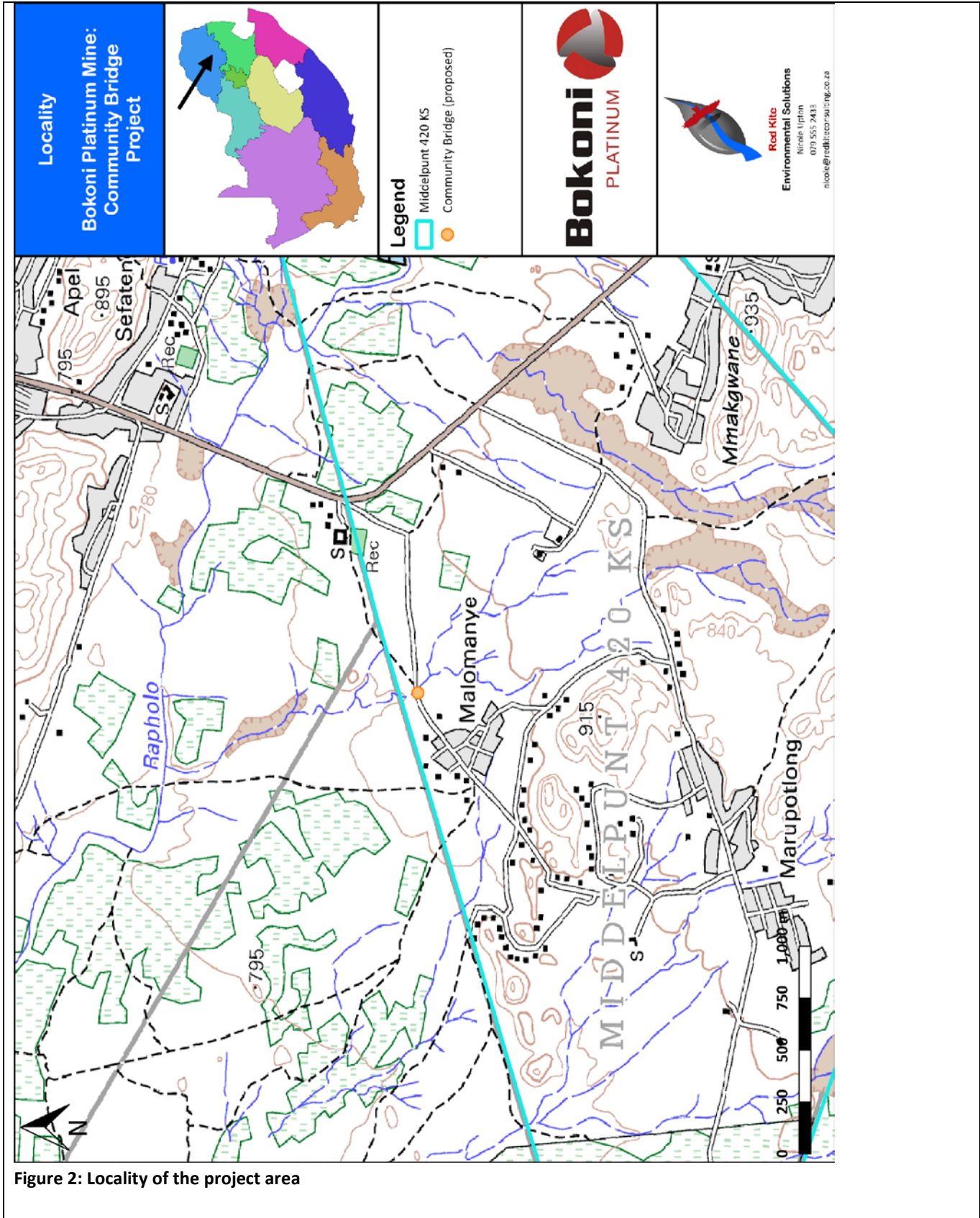
- The footprint of the proposed bridge is 1 200 m²
- The proposed road upgrade is 450 m in length and the footprint is 8 400 m²

Study Area / Site Description

The proposed bridge is situated on the farm Middelpunt 420 KS, between Polokwane and Burgersfort off the R37. The project area is located in the Fetakgomo Tubatse Local Municipality of the Sekhukhune District Municipality, Limpopo Province. The village nearest to the proposed bridge is the Malomanye village. Refer to the figures below and Appendix A for Locality Map. The properties fall outside an urban area. The current land use of the area comprises the river, natural bushveld used for extensive livestock grazing, subsistence agriculture and residences.

The proposed project site is accessible from the existing dirt road crossing the river from the Maandagshoek Road to Malomanye village.





Layout

Bokoni Platinum Mines:
Community Bridge Project

Legend

Design Layout - Bridge and
road upgrade



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Environmental Solutions
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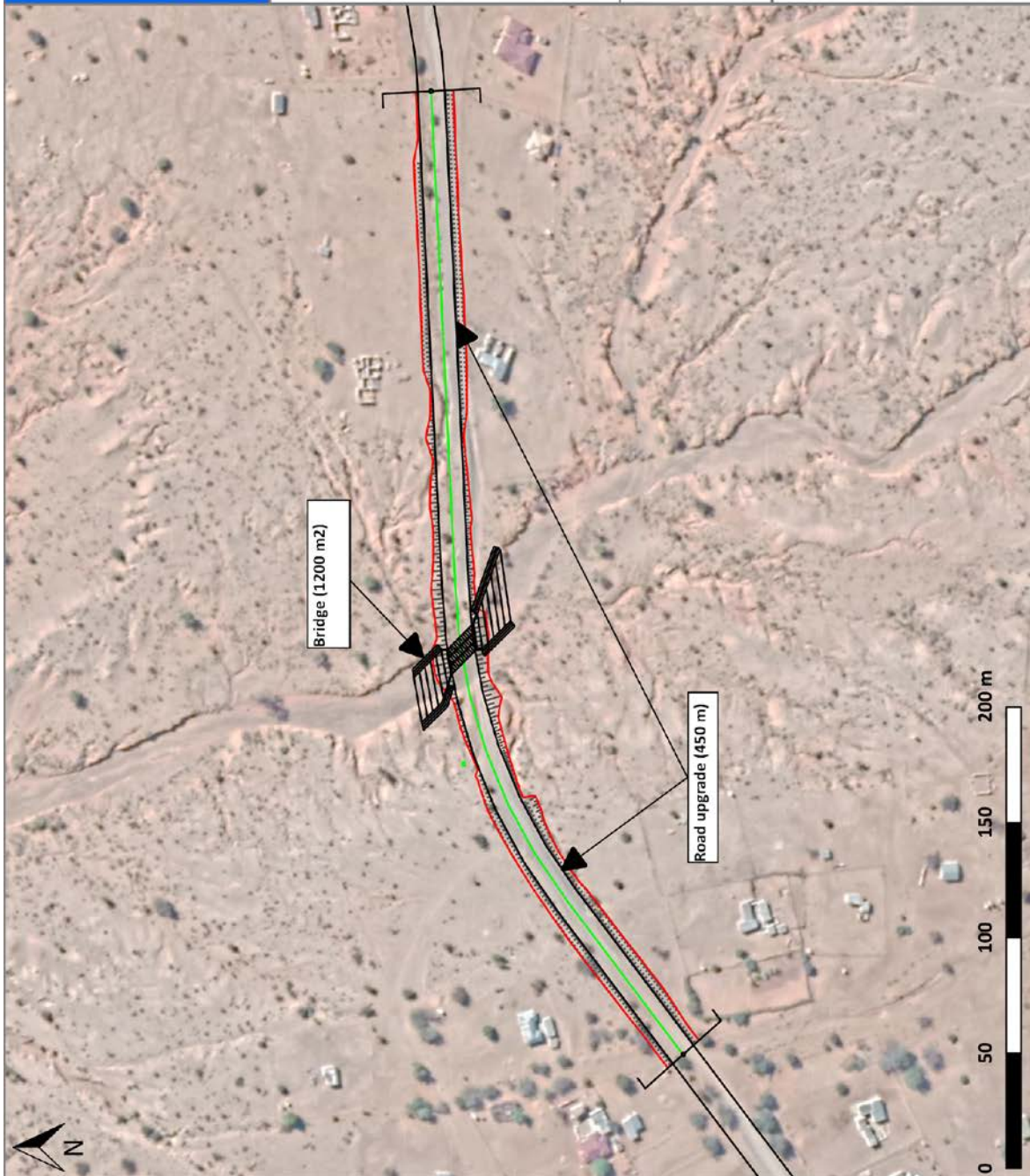


Figure 3: Satellite image of the study area

Detailed Project Description

Pre-Construction and Construction process for the proposed development

A description of the activities which forms part of the proposed construction of the bridge is provided below:

- Site camp establishment – site camp will be established in close proximity to the site, where all equipment to be used during the construction of the proposed bridge will be kept;
- Site clearance – clearance of vegetations and site preparation will be done on the area earmarked for the construction of the proposed bridge;
- Temporary diversion of river flow through the construction area using low earth berms with protection in the form of sandbags where applicable.
- The culverts will be founded on a cast in situ concrete slab. Infill in situ material will be used on each side of the river bank underlying the concrete overlay.
- Gabion walls and mattresses will be installed on either side of the culvert to minimize erosion around the bridge structures.
- Stockpile - during construction of the proposed bridge, it is anticipated that some soil material and rocks will need to be moved to a designated area for temporary storage, for use during the rehabilitation of the affected area. All rock materials found onsite will be used back in retaining the riverbanks and in assisting with strengthening the retainer structure such as gabion structure. Planting of accepted vegetation will be done to assist further the enhancement of rehabilitation of each side of the bridge end.

No water will be extracted from the river during construction. Construction water will be obtained from alternative sources, such as Bokoni Platinum Mine. Precast culvert sections will be used, requiring no water at all. The cast in situ concrete slab will be constructed using ready mixed concrete from commercial sources, again requiring no water. The water requirements for the concrete works will thus be minimal – only required for curing of the concrete, and for cleaning. Construction water will be required to re-compact the gravel infill for road construction over the culvert sections.

A General Authorisation has been issued by the Department of Water and Sanitation in terms of Section 39 of the National Water Act (Act No. 36 of 1998) for Section 21 (c) & (i) water uses associated with the bridge construction.

Operational Activities

During the operational and maintenance phase of the proposed project, the applicant will ensure that operation and maintenance activities are carried out by suitable qualified individual as the activities are specialised.

Decommissioning Activities

The proposed bridge will remain operational for the foreseeable future. Therefore no decommissioning phase is currently foreseen.

2. FEASIBLE AND REASONABLE ALTERNATIVES

“*alternatives*”, in relation to a proposed activity, means different means of meeting the general purpose and requirements of the activity, which may include alternatives to—

- (a) the property on which or location where it is proposed to undertake the activity;
- (b) the type of activity to be undertaken;
- (c) the design or layout of the activity;
- (d) the technology to be used in the activity;
- (e) the operational aspects of the activity; and
- (f) the option of not implementing the activity.

Describe alternatives that are considered in this application. Alternatives should include a consideration of all possible means by which the purpose and need of the proposed activity could be accomplished in the specific instance taking account of the interest of the applicant in the activity. The no-go alternative must in all cases be included in the assessment phase as the baseline against which the impacts of the other alternatives are assessed. The determination of whether site or activity (including different processes etc.) or both is appropriate needs to be informed by the specific circumstances of the activity and its environment. After receipt of this report the Department may also request the applicant to assess additional alternatives that could possibly accomplish the purpose and need of the proposed activity if it is clear that realistic alternatives have not been considered to a reasonable extent.

Paragraphs 3 – 13 below should be completed for each alternative.

3. ACTIVITY POSITION

Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in degrees, minutes and seconds. The projection that must be used in all cases is the Hartebeeshoek 94 WGS84 spheroid in a national or local projection.

List alternative sites, if applicable.

Latitude (S): Longitude (E):

Alternative (bridge):

Alternative S1 ² (preferred or only site alternative)	24°	17'	46.84"	29°	50'	35.74"
Alternative S2 (if any)						
Alternative S3 (if any)						

² “Alternative S..” refer to site alternatives.

In the case of linear activities:

Alternative (road upgrade):

Latitude (S):

Longitude (E):

Alternative S1 (preferred or only route alternative)

- Starting point of the activity
- Middle/Additional point of the activity
- End point of the activity

24°	17'	50.13"	29°	50'	29.65"
24°	17'	46.68"	29°	50'	35.90"
24°	17'	46.22"	29°	50'	44.46"

Alternative S2 (if any)

- Starting point of the activity
- Middle/Additional point of the activity
- End point of the activity

Alternative S3 (if any)

- Starting point of the activity
- Middle/Additional point of the activity
- End point of the activity

For route alternatives that are longer than 500m, please provide an addendum with co-ordinates taken every 250 meters along the route for each alternative alignment. *N/A*

4. PHYSICAL SIZE OF THE ACTIVITY

Indicate the physical size of the preferred activity/technology as well as alternative activities/technologies (footprints):

Alternative (bridge and road upgrade):

Size of the activity:

Alternative A1³ (preferred activity alternative)

9 600 m ²

Alternative A2 (if any)

Alternative A3 (if any)

or,

for linear activities:

Length of the activity:

Alternative (road upgrade):

Alternative A1 (preferred activity alternative)

450 m

Alternative A2 (if any)

³ "Alternative A.." refer to activity, process, technology or other alternatives.

Alternative A3 (if any)



Indicate the size of the alternative sites or servitudes (within which the above footprints will occur):

Size of the site/servitude:

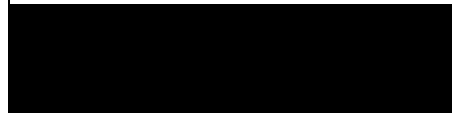
Alternative:

Alternative A1 (preferred activity alternative)

9 600 m²

Alternative A2 (if any)

Alternative A3 (if any)



5. SITE ACCESS

Does ready access to the site exist?

YES

If NO, what is the distance over which a new access road will be built

Describe the type of access road planned:

The proposed project site is accessible from the existing dirt road crossing the river from the Maandagshoek Road to Malomanye village.

Include the position of the access road on the site plan and required map, as well as an indication of the road in relation to the site.

6. SITE OR ROUTE PLAN

A detailed site or route plan(s) must be prepared for each alternative site or alternative activity. It must be attached as Appendix A to this document.

The site or route plans must indicate the following:

- 6.1 the scale of the plan which must be at least a scale of 1:500;
- 6.2 the property boundaries and numbers of all the properties within 50 metres of the site;
- 6.3 the current land use as well as the land use zoning of each of the properties adjoining the site or sites;
- 6.4 the exact position of each element of the application as well as any other structures on the site;
- 6.5 the position of services, including electricity supply cables (indicate above or underground), water supply pipelines, boreholes, street lights, sewage pipelines, storm water infrastructure and telecommunication infrastructure;
- 6.6 all trees and shrubs taller than 1.8 metres;
- 6.7 walls and fencing including details of the height and construction material;
- 6.8 servitudes indicating the purpose of the servitude;
- 6.9 sensitive environmental elements within 100 metres of the site or sites including (but not limited thereto):

- rivers;
 - the 1:100 year flood line (where available or where it is required by Department of Water Affairs);
 - ridges;
 - cultural and historical features;
 - areas with indigenous vegetation (even if it is degraded or invested with alien species);
- 6.10 for gentle slopes the 1 meter contour intervals must be indicated on the plan and whenever the slope of the site exceeds 1:10, the 500mm contours must be indicated on the plan; and
- 6.11 the positions from where photographs of the site were taken.

7. SITE PHOTOGRAPHS

Colour photographs from the centre of the site must be taken in at least the eight major compass directions with a description of each photograph. Photographs must be attached under Appendix B to this form. It must be supplemented with additional photographs of relevant features on the site, if applicable.

8. FACILITY ILLUSTRATION

A detailed illustration of the activity must be provided at a scale of 1:200 as Appendix C for activities that include structures. The illustrations must be to scale and must represent a realistic image of the planned activity. The illustration must give a representative view of the activity.

11. ACTIVITY MOTIVATION

9(a) Socio-economic value of the activity

What is the expected capital value of the activity on completion?	R 5 000 000
What is the expected yearly income that will be generated by or as a result of the activity?	N/A
Will the activity contribute to service infrastructure?	YES
Is the activity a public amenity?	YES
How many new employment opportunities will be created in the development phase of the activity?	25
What is the expected value of the employment opportunities during the development phase?	R 1 500 000
What percentage of this will accrue to previously disadvantaged individuals?	70%
How many permanent new employment opportunities will be created during the operational phase of the activity?	N/A
What is the expected current value of the employment opportunities during the first 10 years?	R0
What percentage of this will accrue to previously disadvantaged individuals?	N/A

9(b) Need and desirability of the activity

Motivate and explain the need and desirability of the activity (including demand for the activity):

NEED:			
i.	Was the relevant municipality involved in the application?	YES	
ii.	Does the proposed land use fall within the municipal Integrated Development Plan?	YES	
iii.	If the answer to questions 1 and / or 2 was NO, please provide further motivation / explanation:		

DESIRABILITY:			
i.	Does the proposed land use / development fit the surrounding area?	YES	
ii.	Does the proposed land use / development conform to the relevant structure plans, Spatial development Framework, Land Use Management Scheme, and planning visions for the area?	YES	
iii.	Will the benefits of the proposed land use / development outweigh the negative impacts of it?	YES	
iv.	If the answer to any of the questions 1-3 was NO, please provide further motivation / explanation:		
v.	Will the proposed land use / development impact on the sense of place?		NO
vi.	Will the proposed land use / development set a precedent?		NO
vii.	Will any person's rights be affected by the proposed land use / development?		NO
viii.	Will the proposed land use / development compromise the "urban edge"?		NO
ix.	If the answer to any of the question 5-8 was YES, please provide further motivation / explanation.		

BENEFITS:			
i.	Will the land use / development have any benefits for society in general?	YES	
ii.	The proposed bridge will replace the current dirt road crossing the drainage line. Due to the current crossing being a dirt road across the river, the community including school children and workers cannot cross over the river during rainy days as the river gets flooded and hence, they cannot go to school, health facilities, work, shops, etc. Furthermore, the dirt road crossing often becomes damaged during rain events, leading to difficulties traversing the road until the road has been repaired.		

	The proposed bridge will ensure access for the communities to the basic service facilities during the rainy periods. This bridge will form an integral part of the communities, as it will be a safe, accessible connection point for the communities especially during peak rainfall periods. Community members, including school children and workers will be able to safely and conveniently access schools, health facilities, workplaces, shops, police stations, etc. during rainy periods.	
iii.	Will the land use / development have any benefits for the local communities where it will be located?	YES
iv.	<p>The proposed bridge will replace the current dirt road crossing the drainage line. Due to the current crossing being a dirt road across the river, the community including school children and workers cannot cross over the river during rainy days as the river gets flooded and hence, they cannot go to school, health facilities, work, shops, etc. Furthermore, the dirt road crossing often becomes damaged during rain events, leading to difficulties traversing the road until the road has been repaired.</p> <p>The proposed bridge will ensure access for the communities to the basic service facilities during the rainy periods. This bridge will form an integral part of the communities, as it will be a safe, accessible connection point for the communities especially during peak rainfall periods. Community members, including school children and workers will be able to safely and conveniently access schools, health facilities, workplaces, shops, police stations, etc. during rainy periods.</p>	

10. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

List all legislation, policies and/or guidelines of any sphere of government that are applicable to the application as contemplated in the EIA regulations, if applicable:

Title of legislation, policy or guideline:	Administering authority:	Date:
National Environmental Management Act, 1998 (Act No. 107 of 1998) [as amended] (NEMA)	Limpopo Economic Development, Environment and Tourism (LEDET)	19 November 1998
Environmental Impact Assessment (EIA) Regulations, 2014 [as amended]	LEDET	8 December 2014
National Water Act, 1998 (Act No. 36 of 1998) (NWA)	Department of Water and Sanitation (DWS)	20 August 1998
National Environmental Management Waste Act, 2008 (Act No. 59 of 2008) [as amended] (NEM:WA), National Norms and standards for the storage of waste (GNR.926 of 29 November 2013)	LEDET / Department of Forestry, Fisheries and the Environment (DFFE)	10 March 2009 29 November 2013
National Environmental Management: Biodiversity Act, 2004 (Act No 10 of 2004)	LEDET	7 June 2004
National Environmental Management: Protected Areas Act (Act No. 57 of 2003)	LEDET / Department of Forestry, Fisheries and the Environment (DFFE)	18 February 2004
National Heritage Resources Act, 1999 (Act No. 25 of 1999) (NHRA)	The South African Heritage Resources Agency (SAHRA)	28 April 1999

	Limpopo Heritage Resources Authority (LIHRA)	
Occupational Health and Safety Act, 1993 (Act No. 85 of 1993)	Provincial Department of Labour	23 June 1993
Promotion of Access to Information Act, 2000 (Act No. 2 of 2000) (PAIA).	LEDET	9 March 2001
The Constitution of the Republic of South Africa, 1996 (Act No. 108 of 1996)	The Judiciary	18 December 1996
Applicable by-laws of Fetakgomo Tubatse Local Municipality	Fetakgomo Tubatse Local Municipality	N/A

11. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

11(a) Solid waste management

Will the activity produce solid construction waste during the construction/initiation phase?

YES	
	5 m ³

If yes, what estimated quantity will be produced per month?

How will the construction solid waste be disposed of (describe)?

The waste will be stored temporarily at the camp site for the disposal at the nearest licensed municipal Waste Disposal facility.

Where will the construction solid waste be disposed of (describe)?

The waste will be disposed of at the nearest licensed municipal Waste Disposal facility.

Will the activity produce solid waste during its operational phase?

If yes, what estimated quantity will be produced per month?

	NO
	m ³

How will the solid waste be disposed of (describe)?

Where will the solid waste be disposed if it does not feed into a municipal waste stream (describe)?

If the solid waste (construction or operational phases) will not be disposed of in a registered landfill site or be taken up in a municipal waste stream, then the applicant should consult with the department to determine whether it is necessary to change to an application for scoping and EIA.

Can any part of the solid waste be classified as hazardous in terms of the relevant legislation?

NO

If yes, inform the department and request a change to an application for scoping and EIA.

Is the activity that is being applied for a solid waste handling or treatment facility?

NO

If yes, then the applicant should consult with the Department to determine whether it is necessary to change to an application for scoping and EIA.

11(b) Liquid effluent

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system?

	NO
--	----

If yes, what estimated quantity will be produced per month?

Will the activity produce any effluent that will be treated and/or disposed of on site?

	NO
--	----

If yes, the applicant should consult with the Department to determine whether it is necessary to change to an application for scoping and EIA.

Will the activity produce effluent that will be treated and/or disposed of at another facility?

	NO
--	----

If yes, provide the particulars of the facility:

Facility name:

Contact person:

Postal address:

Postal code:

Telephone:

E-mail:

Cell:

Fax:

Describe the measures that will be taken to ensure the optimal reuse or recycling of waste water, if any:

11(c) Emissions into the atmosphere

Will the activity release emissions into the atmosphere?

YES	
-----	--

If yes, is it controlled by any legislation of any sphere of government?

	NO
--	----

If yes, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

If no, describe the emissions in terms of type and concentration:

Dust may be generated during the construction and operational phases of the activity, especially during high wind conditions, as a result of construction material on site as well as movement of vehicles to or from the site. The dust can, however, be controlled by regular watering, temporary pauses in work during high wind conditions, vehicle speed restrictions and also by covering the building materials on site as well as during transportation. Construction vehicle emissions may exist. Exhaust emissions from construction vehicles can be minimised by ensuring that all vehicles are properly equipped and serviced.

11(d) Generation of noise

Will the activity generate noise?

YES

If yes, is it controlled by any legislation of any sphere of government?

NO

If yes, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

If no, describe the noise in terms of type and level:

Noise generated will be from construction activities. The following mitigation measures will ensure that noise created during construction is managed adequately:

- Ensure that vehicles and equipment utilised on site are in good working order and are serviced properly,
- Limit construction activities to daylight hours i.e. 7am to 5pm,
- Apply applicable municipal by-laws with regards to noise control,
- The staff involved in the construction will not be housed on site and will also be informed as to how they could avoid any unnecessary noise pollution during working hours.

12. WATER USE

Please indicate the source(s) of water that will be used for the activity by ticking the appropriate box(es)

municipal

other

If water is to be extracted from groundwater, river, stream, dam, lake or any other natural feature, please indicate the volume that will be extracted per month:

Does the activity require a water use permit from the Department of Water Affairs?

YES

If yes, please submit the necessary application to the Department of Water Affairs and attach proof thereof to this application if it has been submitted.

Section 21 (c) and 21 (i) water uses in terms of the NWA apply to the activity. A General Authorisation in terms of Section 39 of the NWA has been issued for the activities from the Department of Water and Sanitation (DWS). Refer to Appendix G for proof of submission of Water Use Authorisation application.

13. ENERGY EFFICIENCY

Describe the design measures, if any, that have been taken to ensure that the activity is energy efficient:

The activity will not require any power from the national grid and engineers will consider the energy efficiency (fuel usage) of the equipment that is used on site.

Describe how alternative energy sources have been taken into account or been built into the design of the activity, if any:

N/A

SECTION B: SITE/AREA/PROPERTY DESCRIPTION

Important notes:

1. For linear activities (pipelines, etc) as well as activities that cover very large sites, it may be necessary to complete this section for each part of the site that has a significantly different environment. In such cases please complete copies of Section C and indicate the area, which is covered by each copy No. on the Site Plan.

Section C Copy No. [REDACTED]
(e.g. A):

2. Paragraphs 1 - 6 below must be completed for each alternative.

3. Has a specialist been consulted to assist with the completion of this section? [REDACTED]

NO

If YES, please complete the form entitled "Details of specialist and declaration of interest" for each specialist thus appointed:

All specialist reports must be contained in Appendix D.

Property description/physical address:

The remaining extent of the farm Middelpunt 420 KS.

(Farm name, portion etc.) Where a large number of properties are involved (e.g. linear activities), please attach a full list to this application.

In instances where there is more than one town or district involved, please attach a list of towns or districts to this application.

Current land-use zoning:

Agriculture

In instances where there is more than one current land-use zoning, please attach a list of current land use zonings that also indicate which portions each use pertains to, to this application.

- Is a change of land-use or a consent use application required?

[REDACTED]	NO
------------	----
- Must a building plan be submitted to the local authority?

[REDACTED]	NO
------------	----

Locality map:

An A3 locality map must be attached to the back of this document, as Appendix A. The scale of the locality map must be relevant to the size of the development (at least 1:50 000. For linear activities of more than 25 kilometres, a smaller scale e.g. 1:250 000 can be used. The scale must be indicated on the map.) The map must indicate the following:

- an indication of the project site position as well as the positions of the alternative sites, if any;
- road access from all major roads in the area;
- road names or numbers of all major roads as well as the roads that provide access to the site(s);
- all roads within a 1km radius of the site or alternative sites; and
- a north arrow;
- a legend; and
- locality GPS co-ordinates (Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in degrees, minutes and seconds. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection)

1. GRADIENT OF THE SITE

Indicate the general gradient of the site.

Alternative S1:

Flat	1:50 – 1:20	
------	-------------	--

Alternative S2 (if any):



Alternative S3 (if any):



2. LOCATION IN LANDSCAPE

Indicate the landform(s) that best describes the site:

2.1 Ridgeline		2.6 Plain	X
2.2 Plateau		2.7 Undulating plain / low hills	
2.3 Side slope of hill/mountain		2.8 Dune	
2.4 Closed valley		2.9 Seafront	
2.5 Open valley			

3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

Is the site(s) located on any of the following (tick the appropriate boxes)?

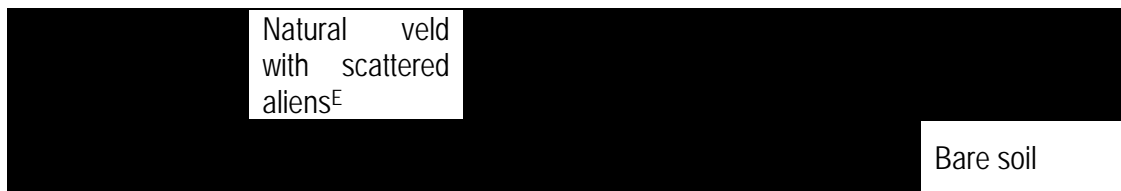
	Alternative S1:	Alternative S2 (if any):	Alternative S3 (if any):
Shallow water table (less than 1.5m deep)	NO		
Dolomite, sinkhole or doline areas	NO		
Seasonally wet soils (often close to water bodies)	YES		
Unstable rocky slopes or steep slopes with loose soil	NO		
Dispersive soils (soils that dissolve in water)	NO		
Soils with high clay content (clay fraction more than 40%)	NO		
Any other unstable soil or geological feature	NO		
An area sensitive to erosion	YES		

If you are unsure about any of the above or if you are concerned that any of the above aspects may be an issue of concern in the application, an appropriate specialist should be appointed to assist in the completion of this section. (Information in respect of the above will often be available as part of the project information or at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by the Council for Geo Science may also be consulted).

4. GROUNDCOVER

Indicate the types of groundcover present on the site:

The location of all identified rare or endangered species or other elements should be accurately indicated on the site plan(s).



If any of the boxes marked with an "E" is ticked, please consult an appropriate specialist to assist in the completion of this section if the environmental assessment practitioner doesn't have the necessary expertise.

5. LAND USE CHARACTER OF SURROUNDING AREA

Indicate land uses and/or prominent features that does currently occur within a 500m radius of the site and give description of how this influences the application or may be impacted upon by the application:

5.1 Natural area	X	5.22 School	
5.2 Low density residential	X	5.23 Tertiary education facility	
5.3 Medium density residential		5.24 Church	
5.4 High density residential		5.25 Old age home	
5.5 Medium industrial ^{AN}		5.26 Museum	
5.6 Office/consulting room		5.27 Historical building	
5.7 Military or police base/station/compound		5.28 Protected Area	
5.8 Spoil heap or slimes dam ^A		5.29 Sewage treatment plant ^A	
5.9 Light industrial		5.30 Train station or shunting yard ^N	
5.10 Heavy industrial ^{AN}		5.31 Railway line ^N	
5.11 Power station		5.32 Major road (4 lanes or more)	
5.12 Sport facilities		5.33 Airport ^N	
5.13 Golf course		5.34 Harbour	
5.14 Polo fields		5.35 Quarry, sand or borrow pit	
5.15 Filling station ^H		5.36 Hospital/medical centre	
5.16 Landfill or waste treatment site		5.37 River, stream or wetland	X
5.17 Plantation		5.38 Nature conservation area	
5.18 Agriculture	X	5.39 Mountain, koppie or ridge	
5.19 Archaeological site	X	5.40 Graveyard	
5.20 Quarry, sand or borrow pit		5.41 River, stream or wetland	X
5.21 Dam or Reservoir		5.42 Other land uses (describe)	

If any of the boxes marked with an "N" are ticked, how will this impact / be impacted upon by the proposed activity?

If any of the boxes marked with an "An" are ticked, how will this impact / be impacted upon by the proposed activity?

If YES, specify and explain:	
If NO, specify:	

If any of the boxes marked with an "H" are ticked, how will this impact / be impacted upon by the proposed activity.

If YES, specify and explain:	
If NO, specify:	

6. CULTURAL/HISTORICAL FEATURES

Are there any signs of culturally or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including Archaeological or palaeontological sites, on or close (within 20m) to the site?	YES
	Uncertain

If YES, explain:	<p>APelser Archaeological Consulting (APAC) conducted a Phase 1 Heritage Impact Assessment for the proposed Bokoni Platinum Mine Community Bridge Project.</p> <p>Some sites with an archaeological origin and significance were identified and recorded in the study area and proposed development site boundaries. These are represented by scatters of material situated close to and in the general area of the bridge footprint. These "sites" include MSA/LSA stone tools, as well as some undecorated Iron Age pottery. The sites, even though they are not of very high significance, will be directly impacted by the proposed development. There is also a possibility that in situ (and invisible subterranean) cultural material deposits will be exposed by the bridge development activities. The single piece of decorated Iron Age pottery found in the stream bed some distance away from the development site provides a relative date for the Iron Age of the general area. Based on Huffman's research it is possible that this decorated rim fragment is part of the Urewe Iron Age Tradition (Moloko Branch) and so-called Icon facies. This would date it to between AD1300 & AD1500.</p> <p>Refer to Appendix D for the Heritage Impact Assessment undertaken for the project.</p>
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If uncertain, conduct a specialist investigation by a recognised specialist in the field to establish whether there is such a feature(s) present on or close to the site.

Briefly explain the findings of the specialist:	<p>Some sites with an archaeological origin and significance were identified and recorded in the study area and proposed development site boundaries. These are represented by scatters of material situated close to and in the general area of the bridge footprint. These "sites" include MSA/LSA stone tools, as well as some undecorated Iron Age pottery. The sites, even though they are not of very high significance, will be directly impacted by the proposed development. There is also a possibility that in situ (and invisible subterranean) cultural material deposits will be exposed by the bridge development activities. The single piece of decorated Iron Age pottery found in the stream bed some distance away from the development site provides a relative date for the Iron Age of the general area. Based on Huffman's research it is possible that this decorated rim fragment is part of the Urewe Iron Age Tradition (Moloko Branch) and so-called Icon facies. This would date it to between AD1300 & AD1500.</p> <p>Refer to Appendix D for the Heritage Impact Assessment undertaken for the project.</p>
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Will any building or structure older than 60 years be affected in any way?	NO
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Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?

YES	
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If yes, please submit or, make sure that the applicant or a specialist submits the necessary application to SAHRA or the relevant provincial heritage agency and attach proof thereof to this application if such application has been made.

The permit application for further archaeological study will be submitted with Final Basic Assessment Report.

SECTION C: PUBLIC PARTICIPATION

Refer to Appendix E for Public Participation conducted, including advertisements, site notices, Background Information Documents and other forms of notification.

The full details of the PPP undertaken for the Basic Assessment process will be included with the final Basic Assessment Report.

1. ADVERTISEMENT

The person conducting a public participation process must take into account any guidelines applicable to public participation as contemplated in section 24J of the Act and must give notice to all potential interested and affected parties of the application which is subjected to public participation by—

- (a) fixing a notice board (of a size at least 60cm by 42cm; and must display the required information in lettering and in a format as may be determined by the department) at a place conspicuous to the public at the boundary or on the fence of—
 - (i) the site where the activity to which the application relates is or is to be undertaken; and
 - (ii) any alternative site mentioned in the application;
- (b) giving written notice to—
 - (i) the owner or person in control of that land if the applicant is not the owner or person in control of the land;
 - (ii) the occupiers of the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;
 - (iii) owners and occupiers of land adjacent to the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;
 - (iv) the municipal councillor of the ward in which the site or alternative site is situated and any organisation of ratepayers that represent the community in the area;
 - (v) the municipality which has jurisdiction in the area;
 - (vi) any organ of state having jurisdiction in respect of any aspect of the activity; and
 - (vii) any other party as required by the department;
- (c) placing an advertisement in—
 - (i) one local newspaper; or
 - (ii) any official *Gazette* that is published specifically for the purpose of providing public notice of applications or other submissions made in terms of these Regulations;
- (d) placing an advertisement in at least one provincial newspaper or national newspaper, if the activity has or may have an impact that extends beyond the boundaries of the local municipality in which it is or will be undertaken: Provided that this paragraph need not be complied with if an advertisement has been placed in an official *Gazette* referred to in subregulation 54(c)(ii); and

- (e) using reasonable alternative methods, as agreed to by the department, in those instances where a person is desiring of but unable to participate in the process due to—
 - (i) illiteracy;
 - (ii) disability; or
 - (iii) any other disadvantage.

2. CONTENT OF ADVERTISEMENTS AND NOTICES

A notice board, advertisement or notices must:

- (a) indicate the details of the application which is subjected to public participation; and
- (b) state—
 - (i) that the application has been submitted to the department in terms of these Regulations, as the case may be;
 - (ii) whether basic assessment or scoping procedures are being applied to the application, in the case of an application for environmental authorisation;
 - (iii) the nature and location of the activity to which the application relates;
 - (iv) where further information on the application or activity can be obtained; and
 - (v) the manner in which and the person to whom representations in respect of the application may be made.

3. PLACEMENT OF ADVERTISEMENTS AND NOTICES

Where the proposed activity may have impacts that extend beyond the municipal area where it is located, a notice must be placed in at least one provincial newspaper or national newspaper, indicating that an application will be submitted to the department in terms of these regulations, the nature and location of the activity, where further information on the proposed activity can be obtained and the manner in which representations in respect of the application can be made, unless a notice has been placed in any *Gazette* that is published specifically for the purpose of providing notice to the public of applications made in terms of these Regulations.

Advertisements and notices must make provision for all alternatives.

4. DETERMINATION OF APPROPRIATE MEASURES

The practitioner must ensure that the public participation is adequate and must determine whether a public meeting or any other additional measure is appropriate or not based on the particular nature of each case. Special attention

should be given to the involvement of local community structures such as Ward Committees, ratepayers associations and traditional authorities where appropriate. Please note that public concerns that emerge at a later stage that should have been addressed may cause the department to withdraw any authorisation it may have issued if it becomes apparent that the public participation process was inadequate.

5. COMMENTS AND RESPONSE REPORT

The practitioner must record all comments and respond to each comment of the public before the application is submitted. The comments and responses must be captured in a comments and response report as prescribed in these Regulations and be attached to this application. The comments and response report must be attached under Appendix E.

6. AUTHORITY PARTICIPATION

Please note that a complete list of all organs of state and or any other applicable authority with their contact details must be appended to the basic assessment report or scoping report, whichever is applicable.

Authorities are key interested and affected parties in each application and no decision on any application will be made before the relevant local authority is provided with the opportunity to give input.

Name of Authority informed:	Comments received (Yes or No)
To be updated in the Final Basic Assessment Report.	

7. CONSULTATION WITH OTHER STAKEHOLDERS

Note that, for linear activities, or where deviation from the public participation requirements may be appropriate, the person conducting the public participation process may deviate from the requirements of that subregulation to the extent and in the manner as may be agreed to by the department.

Proof of any such agreement must be provided, where applicable.

Has any comment been received from stakeholders?

	NO
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If "YES", briefly describe the feedback below (also attach copies of any correspondence to and from the stakeholders to this application):

To be updated in the Final Basic Assessment Report.

SECTION D: IMPACT ASSESSMENT

The assessment of impacts must adhere to the minimum requirements in the EIA Regulations, 2014, and should take applicable official guidelines into account. The issues raised by interested and affected parties should also be addressed in the assessment of impacts.

1. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

List the main issues raised by interested and affected parties.

No comment has been received to date.

To be updated in the Final Basic Assessment Report.

Response from the practitioner to the issues raised by the interested and affected parties (A full response must be given in the Comments and Response Report that must be attached to this report as Annexure E):

No comment has been received to date.

To be updated in the Final Basic Assessment Report.

2. IMPACTS THAT MAY RESULT FROM THE PLANNING AND DESIGN, CONSTRUCTION, OPERATIONAL, DECOMMISSIONING AND CLOSURE PHASES AS WELL AS PROPOSED MANAGEMENT OF IDENTIFIED IMPACTS AND PROPOSED MITIGATION MEASURES

List the potential direct, indirect and cumulative property/activity/design/technology/operational alternative related impacts (as appropriate) that are likely to occur as a result of the planning and design phase, construction phase, operational phase, decommissioning and closure phase, including impacts relating to the choice of site/activity/technology alternatives as well as the mitigation measures that may eliminate or reduce the potential impacts listed.

Methodology for Assessing the Significance of Impacts

The criteria for the description and assessment of environmental impacts were drawn from the EIA National Environmental Management Act (Act No. 107 of 1998): EIA Regulations (2014) and as amended from time to time.

The level of detail as depicted in the EIA Guidelines was fine-tuned by assigning specific values to each impact. In order to establish a coherent framework within which all impacts could be objectively assessed, it was necessary to establish a rating system, which was applied consistently to all the criteria. For such purposes each aspect was assigned a value, ranging from one (1) to five (5), depending on its definition. This assessment is a relative evaluation within the context of all the activities and the other impacts within the framework of the project.

An explanation of the impact assessment criteria is defined below.

Table: Impact Assessment Criteria

EXTENT	
Classification of the physical and spatial scale of the impact	
Footprint	The impacted area extends only as far as the activity, such as footprint occurring within the total site area.
Site	The impact could affect the whole, or a significant portion of the site.
Regional	The impact could affect the area including the neighbouring farms, the transport routes and the adjoining towns.
National	The impact could have an effect that expands throughout the country (South Africa).
International	Where the impact has international ramifications that extend beyond the boundaries of South Africa.
DURATION	
The lifetime of the impact that is measured in relation to the lifetime of the development.	
Short term	The impact will either disappear with mitigation or will be mitigated through a natural process in a period shorter than that of the construction phase.
Short to Medium term	The impact will be relevant through to the end of a construction phase (1.5 years).
Medium term	The impact will last up to the end of the development phases, where after it will be entirely negated.
Long term	The impact will continue or last for the entire operational lifetime i.e. exceed 30 years of the development, but will be mitigated by direct human action or by natural processes thereafter.
Permanent	This is the only class of impact, which will be non-transitory. Mitigation either by man or natural process will not occur in such a way or in such a time span that the impact can be considered transient.
INTENSITY	
The intensity of the impact is considered by examining whether the impact is destructive or benign, whether it destroys the impacted environment, alters its functioning, or slightly alters the environment itself. The intensity is rated as	
Low	The impact alters the affected environment in such a way that the natural processes or functions are not affected.
Medium	The affected environment is altered, but functions and processes continue, albeit in a modified way.
High	Function or process of the affected environment is disturbed to the extent where it temporarily or permanently ceases.
PROBABILITY	
This describes the likelihood of the impacts actually occurring. The impact may occur for any length of time during the life cycle of the activity, and not at any given time. The classes are rated as follows:	
Improbable	The possibility of the impact occurring is none, due either to the circumstances, design or experience. The chance of this impact occurring is zero (0 %).
Possible	The possibility of the impact occurring is very low, due either to the circumstances, design or experience. The chances of this impact occurring is defined as 25 %.
Likely	There is a possibility that the impact will occur to the extent that provisions must therefore be made. The chances of this impact occurring is defined as 50 %.
Highly Likely	It is most likely that the impacts will occur at some stage of the development. Plans must be drawn up before carrying out the activity. The chances of this impact occurring is defined as 75 %.
Definite	The impact will take place regardless of any prevention plans, and only mitigation actions or contingency plans to contain the effect can be relied on. The chance of this impact occurring is defined as 100 %.

The status of the impacts and degree of confidence with respect to the assessment of the significance must be stated as follows:

- **Status of the impact:** A description as to whether the impact would be positive (a benefit), negative (a cost), or neutral.
- **Degree of confidence in predictions:** The degree of confidence in the predictions, based on the availability of information and specialist knowledge.

Other aspects to take into consideration in the specialist studies are:

- Impacts should be described both before and after the proposed mitigation and management measures have been implemented.
- All impacts should be evaluated for the full-lifecycle of the project, including construction, operation and decommissioning.
- The impact evaluation should take into consideration the cumulative effects associated with this and other facilities which are either developed or in the process of being developed in the region.
- The specialist studies must attempt to quantify the magnitude of potential impacts (direct and cumulative effects) and outline the rationale used. Where appropriate, national standards are to be used as a measure of the level of impact.

Mitigation

The impacts that are generated by the development can be minimised if measures are implemented in order to reduce the impacts. The mitigation measures ensure that the development considers the environment and the predicted impacts in order to minimise impacts and achieve sustainable development.

Determination of Significance-Without Mitigation

Significance is determined through a synthesis of impact characteristics as described in the above paragraphs. It provides an indication of the importance of the impact in terms of both tangible and intangible characteristics. The significance of the impact “without mitigation” is the prime determinant of the nature and degree of mitigation required. Where the impact is positive, significance is noted as “positive”. Significance is rated on the following scale:

Table: Significance-Without Mitigation

NO SIGNIFICANCE	The impact is not substantial and does not require any mitigation action.
LOW	The impact is of little importance, but may require limited mitigation.
MEDIUM	The impact is of importance and is therefore considered to have a negative impact. Mitigation is required to reduce the negative impacts to acceptable levels.
HIGH	The impact is of major importance. Failure to mitigate, with the objective of reducing the impact to acceptable levels, could render the entire development option or entire project proposal unacceptable. Mitigation is therefore essential.

Determination of Significance- With Mitigation

Determination of significance refers to the foreseeable significance of the impact after the successful implementation of the necessary mitigation measures. Significance with mitigation is rated on the following scale:

Table: Significance- With Mitigation

NO SIGNIFICANCE	The impact will be mitigated to the point where it is regarded as insubstantial.
LOW	The impact will be mitigated to the point where it is of limited importance.
LOW TO MEDIUM	The impact is of importance, however, through the implementation of the correct mitigation measures such potential impacts can be reduced to acceptable levels.
MEDIUM	Notwithstanding the successful implementation of the mitigation measures, to reduce the negative impacts to acceptable levels, the negative impact will remain of significance. However, taken within the overall context of the project, the persistent impact does not constitute a fatal flaw.
MEDIUM TO HIGH	The impact is of major importance but through the implementation of the correct mitigation measures, the negative impacts will be reduced to acceptable levels.
HIGH	The impact is of major importance. Mitigation of the impact is not possible on a cost-effective basis. The impact is regarded as high importance and taken within the overall context of the project, is regarded as a fatal flaw. An impact regarded as high significance, after mitigation could render the entire development option or entire project proposal unacceptable.

Assessment Weighting

Each aspect within an impact description was assigned a series of quantitative criteria. Such criteria are likely to differ during the different stages of the project's life cycle. In order to establish a defined base upon which it becomes feasible to make an informed decision, it was necessary to weigh and rank all the criteria.

Ranking, Weighting and Scaling

For each impact under scrutiny, a scaled weighting factor is attached to each respective impact (refer Table 12). The purpose of assigning weights serves to highlight those aspects considered the most critical to the various stakeholders and ensure that each specialist's element of bias is taken into account. The weighting factor also provides a means whereby the impact assessor can successfully deal with the complexities that exist between the different impacts and associated aspect criteria.

Simply, such a weighting factor is indicative of the importance of the impact in terms of the potential effect that it could have on the surrounding environment. Therefore, the aspects considered to have a relatively high value will score a relatively higher weighting than that which is of lower importance.

Table: Description of assessment parameters with its respective weighting

EXTENT		DURATION		INTENSITY		PROBABILITY		WEIGHTING FACTOR (WF)		SIGNIFICANCE RATING (SR)	
Footprint	1	Short term	1	Low	1	Improbable	1	Low	1	Low	0-19
Site	2	Short to Medium	2			Possible	2	Low to Medium	2	Low to Medium	20-39
Regional	3	Medium term	3	Medium	3	Likely	3	Medium	3	Medium	40-59
National	4	Long term	4			Highly Likely	4	Medium to High	4	Medium to High	60-79
International	5	Permanent	5	High	5	Definite	5	High	5	High	80-100
MITIGATION EFFICIENCY (ME)						SIGNIFICANCE FOLLOWING MITIGATION (SFM)					
High			0.2			Low			0 - 19		
Medium to High			0.4			Low to Medium			20 - 39		
Medium			0.6			Medium			40 - 59		
Low to Medium			0.8			Medium to High			60 - 79		
Low			1.0			High			80 - 100		

Identifying the Potential Impacts Without Mitigation Measures (WOM)

Following the assignment of the necessary weights to the respective aspects, criteria are summed and multiplied by their assigned weightings, resulting in a value for each impact (prior to the implementation of mitigation measures).

Equation 1:

$$\text{Significance Rating (WOM)} = (\text{Extent} + \text{Intensity} + \text{Duration} + \text{Probability}) \times \text{Weighting Factor}$$

Identifying the Potential Impacts With Mitigation Measures (WM)

In order to gain a comprehensive understanding of the overall significance of the impact, after implementation of the mitigation measures, it was necessary to re-evaluate the impact.

Mitigation Efficiency (ME)

The most effective means of deriving a quantitative value of mitigated impacts is to assign each significance rating value (WOM) a mitigation efficiency (ME) rating (refer to Table 12). The allocation of such a rating is a measure of the efficiency and effectiveness, as identified through professional experience and empirical evidence of how effectively the proposed mitigation measures will manage the impact.

Thus, the lower the assigned value the greater the effectiveness of the proposed mitigation measures and subsequently,

the lower the impacts with mitigation.

Equation 2:

Significance Rating (WM) = Significance Rating (WOM) x Mitigation Efficiency
 or WM = WOM x ME

Significance Following Mitigation (SFM)

The significance of the impact after the mitigation measures are taken into consideration. The efficiency of the mitigation measure determines the significance of the impact. The level of impact is therefore seen in its entirety with all considerations taken into account.

Alternative (preferred alternative)

PLANNING & DESIGN PHASE

➤ Direct Impacts:

There are no impacts related to the planning and design phase of the proposed project.

➤ Indirect Impacts:

As per the above statement.

➤ Cumulative Impacts:

As per the above statement

CONSTRUCTION PHASE

➤ Direct Impacts:

Impact: Soil compaction and erosion

Soil compaction may occur as a result of construction vehicles driving and parking within the site. This inhibits water absorption as well as plant growth. Vegetation clearing on site may also expose soils which are then susceptible to wind and/or water erosion. Increased erosion may result in excess sedimentation within the river.

	No Mitigation	With Mitigation
Extent	Site (2)	0.6 (Medium) ME
Duration	Short to Medium term (2)	
Magnitude	Medium (3)	
Probability	Likely (3)	
Weighting factor	Low to Medium (2)	
Significance Rating (SR)	Low to Medium (20)	Low (12)

Mitigation measures:

- Diversion of the river should be minimised in terms of spatial and temporal extent.
- The design of the diversion should be done in such a way as to minimise the potential erosion effects.
- Clearing or disturbance of vegetation should be kept to a minimum.
- Any cleared or exposed areas must be rehabilitated with indigenous vegetation at the earliest possible stage.
- Temporary measures may need to be implemented to prevent exposed soils from erosion.
- Remediation action must be taken at the first sign of any erosion.

Impact: Loss of Floral Biodiversity

Development related activities may lead to damage or degradation of sensitive habitats (watercourse) and overall loss of biodiversity and ecosystem function within the area of disturbance. As a result of the construction activities degradation or compression may occur if heavy construction vehicles are not kept to the demarcated roads.

	No Mitigation	With Mitigation
Extent	Site (2)	0.8 (Low to Medium) ME
Duration	Medium term (3)	
Magnitude	Medium (3)	
Probability	Definite (5)	
Weighting factor	Low to Medium (2)	
Significance Rating (SR)	Low to Medium (26)	Low to Medium (21)

Recommended mitigation measures:

- A control of access should be implemented for all areas outside of the development footprint / demarcated construction area to prevent unnecessary destruction of habitats or disturbance of species.
- It is recommended that existing roads be used and, as far as feasible, no new roads should be created.
- The vegetation removal during the construction phase should be controlled, very specific and the clearance area kept as small as possible.
- Continuous rehabilitation of the areas impacted which are outside of the development footprint should occur during construction, where re-vegetation practices should be prioritised.
- To minimize potential impacts to animal species, animals (wildlife and domestic animals) may under no circumstances be handled, removed, killed or interfered with by the Contractor, his employees, his Sub-Contractors or his Sub-Contractors' employees.

Impact: Alien Invasive Plant Proliferation

Construction, human and vehicle movement and introduction of foreign material e.g. soils may lead to the introduction of alien invader species, impacting on the floral characteristics of the project site and adjacent natural areas. Proliferation of AIP species in riparian areas are especially problematic due to the relative ease of AIP transport to downstream areas.

	No Mitigation	With Mitigation
Extent	Regional (3)	0.6 (Medium) ME
Duration	Long term (4)	
Magnitude	Medium (3)	
Probability	Highly likely (4)	
Weighting factor	Medium to High (4)	
Significance Rating (SR)	Medium (56)	Low to medium (34)

Recommended mitigation measures:

- A management plan for the control of invasive and exotic plant species needs to be implemented. Specialist advice should be used in this regard. This plan should include pre-treatment, initial treatment and follow-up treatment. Removal of alien and invasive species must continue for a two year maintenance period after development, on a biannual basis.

Impact: Loss of Species of Conservation Concern and Sensitive Habitats

SCC are unlikely to occur within the area of construction and immediate vicinity. Thus impacts to SCC species due to construction and operation of the bridge is unlikely.

Development and related activities could impact on the sensitive habitats (watercourse) situated in and around the development footprint.

	No Mitigation	With Mitigation
Extent	Site (2)	0.8 (Low to Medium) ME
Duration	Medium term (3)	
Magnitude	Medium (3)	
Probability	Definite (5)	
Weighting factor	Low to Medium (2)	
Significance Rating (SR)	Low to Medium (26)	Low to Medium (21)

Recommended mitigation measures:

- All footprint areas should remain as small as possible.
- A control of access should be implemented for all areas outside of the development footprint / demarcated construction area to prevent unnecessary destruction of habitats or disturbance of species.
- It is recommended that existing roads be used and, as far as feasible, no new roads should be created.
- Continuous rehabilitation of the areas impacted which are outside of the development footprint should occur during construction, where re-vegetation practices should be prioritised.
- To minimize potential impacts to animal species, animals (wildlife and domestic animals) may under no circumstances be handled, removed, killed or interfered with by the Contractor, his employees, his Sub-Contractors or his Sub-Contractors' employees.
- Hydrological connectivity within the watercourse should always be maintained during construction and operational phases.
- Construction activities should only be undertaken during the dry (Winter) season.
- No SCC or protected species were identified as occurring or likely to occur on the project footprint. However, should SCC or protected species be found to occur on the development footprint relevant authorisations must be obtained, in terms of NEMBA (ToPS List), the LEMA and the National Forests Act, 1998 (Act No. 84 of 1998).

Impact: Pollution of river

Impacts on the watercourse due to pollutants entering the water resource, specifically petroleum related waste products which could possibly spread from the river crossing, during construction or during operational phase.

	No Mitigation	With Mitigation
Extent	Site (2)	0.8 (Low to Medium) ME
Duration	Permanent (5)	
Magnitude	Low (1)	
Probability	Possible (2)	
Weighting factor	Low to Medium (2)	
Significance Rating (SR)	Low to medium (20)	Low (16)

Recommended mitigation measures:

- Keep spill kits on-site during the construction phase to remediate any hydrocarbon spills immediately.
- Prevent impacts from reaching downstream water resources by ensuring that temporary storm water control measures are implemented during the construction phase.

Impact: Sedimentation and erosion within the river

The construction of the bridge within the river may lead to sedimentation and erosion. The removal of vegetation and top soil layers to prepare for the new crossing, as well as the new exposed surface area will leave large areas exposed to the elements (wind and rain), causing runoff of sediments (and associated erosion) into the river. Sediments may lead to changes in flow patterns, vegetation distribution and overall ecological functionality.

	No Mitigation	With Mitigation
Extent	Regional (3)	0.6 (Medium) ME
Duration	Short to Medium term (2)	
Magnitude	Low (1)	
Probability	Likely (3)	
Weighting factor	Low to Medium (2)	
Significance Rating (SR)	Low (18)	Low (11)

Mitigation Measures:

- Ensure that the construction footprint is limited to what is needed in order to reduce the amount of vegetation which would need to be cleared.
- Erosion prevention measures (gabions, sand bags and reno mattresses, etc.) must be employed immediately downstream of the construction area to limit the movement of silt and soil mobilized during construction.
- The design of the bridge structure must take into account the direction and strength of the flow of the river, and ensure that measures to reduce scouring of the river bed and erosion of the banks in the vicinity of the bridge are incorporated.

Impact: Air Pollution (Dust)

During the construction phase of the activity, construction materials will be moved to and from the project site and this could result in dust pollution not only from the materials, but also from the construction vehicles which will be travelling along the unpaved road which could be exacerbated during high windy conditions.

	No Mitigation	With Mitigation
Extent	Regional (3)	0.6 (Medium) ME
Duration	Short to Medium term (2)	
Magnitude	Low (1)	
Probability	Likely (3)	
Weighting factor	Low to Medium (2)	
Significance Rating (SR)	Low (18)	Low (11)

Mitigation Measures:

- Provide dust masks for the workers.
- Wet the area and stabilise the dust emissions.
- Use covers where possible during transportation and storage of construction material.
- Limit the number, as well as the speed, of the vehicles travelling to and from the site.
- Where possible, removal of any discarded or unused material must be done immediately.
- If possible, construction work must be paused during periods of strong winds.

Impact: Noise Pollution

During construction, noise will be created by the construction equipment, the workers as well as the construction vehicles both on site as well as during travel to and from the site. The impact of such noise pollution in an open area is unlikely to have any significant impact on the local community.

	No Mitigation	With Mitigation
Extent	Regional (3)	0.6 (Medium) ME
Duration	Short to Medium term (2)	
Magnitude	Low (1)	
Probability	Likely (3)	
Weighting factor	Low to Medium (2)	
Significance Rating (SR)	Low (18)	Low (11)

Mitigation measures:

- All construction vehicles and equipment to be properly serviced in order to meet the necessary noise level requirements.
- Restriction of work to daylight hours (7am to 5pm).
- Restriction of any unnecessary noise e.g. portable radios, vehicle radios, whistles, etc.
- Construction employees to be housed away from site.

Impact: Traffic Impacts

The construction phase may require vehicles travelling along the road to be diverted via an alternative route. Poor forewarning and/or poor planning may result in the road being impassable for a period of time and this will cause a disturbance to the community using the road. The existing diversion road may in turn be damaged by the additional traffic if it is required to be used over a long period of time. Safety precautions must also be taken to ensure that clear signage and barriers are laid out to inform/warn the motorists during the phase when the crossing cannot be used. The construction phase is also likely to result in additional traffic as construction vehicles will be travelling along this route on a daily basis.

	No Mitigation	With Mitigation
Extent	Regional (3)	0.8 (Low to Medium) ME
Duration	Short to Medium term (2)	
Magnitude	Medium (3)	
Probability	Highly likely (4)	
Weighting factor	Medium (3)	
Significance Rating (SR)	Low to Medium (36)	Low (29)

Mitigation measures:

- Attempt to restrict any detours to the shortest period possible.
- Provide strategic signage to forewarn motorists of any detour(s).
- Barricade the low-level crossing with clear signage if it is not useable at any given period.
- Minimize the number of construction vehicles required for the project and prevent any unnecessary travelling of these vehicles especially during peak hours and after hours.

Impact: Solid Waste Generation		
The construction phase will result in the generation of construction waste such as excess concrete together with general waste created by workers.		
	No Mitigation	With Mitigation
Extent	Regional (3)	0.6 (Medium) ME
Duration	Short to Medium term (2)	
Magnitude	Low (1)	
Probability	Likely (3)	
Weighting factor	Low to Medium (2)	
Significance Rating (SR)	Low (18)	Low (11)
Mitigation measures:		
<ul style="list-style-type: none"> Concrete and rubble should be reused and/or recycled where possible. Waste that cannot be reused or recycled should be disposed of in the correct manner at the nearest registered waste disposal site. Litter should be discarded into bins and removed from site on a weekly basis. Any hazardous materials must be disposed of immediately and in the correct manner. General good house-keeping should be practiced on site. 		
Impact: Employment Creation and Local Economy		
The project will create a number of temporary jobs during the construction phase.		
Where possible materials will be sourced from local businesses this will result in a boost of the local economy of the immediate vicinity and surrounding areas. There are no mitigation measures applicable to this impact.		
	No Mitigation	With Mitigation
Extent	Regional (3)	1.8 (Medium to High Positive) ME
Duration	Short to Medium term (2)	
Magnitude	Medium Beneficial (3)	
Probability	Likely (3)	
Weighting factor	Low to Medium (2)	
Significance Rating (SR)	Low to Medium (22) - Positive	Medium (36) - Positive
Mitigation measures to enhance the positive impact:		
<ul style="list-style-type: none"> As far as possible, local labour should be used. Purchase materials locally where possible in order to support the local communities. 		
Impact: Heritage Resources		
Impact on cultural/heritage resources due to construction activities. Background research indicates that there are some cultural heritage (archaeological & historical) sites and features in the larger geographical area within which the study area falls, while some sites with an archaeological origin & significance were identified and recorded in the study area and proposed development site boundaries.		
	No Mitigation	With Mitigation
Extent	Site (2)	0.4 (Medium to High) ME
Duration	Permanent (5)	
Magnitude	Medium (3)	
Probability	Likely (3)	
Weighting factor	Medium to High (4)	

Significance Rating (SR)	Medium (52)	Low to Medium (21)
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Mitigation measures:

- The sampling of representative surface material (Stone Age tools and possible further Iron Age pottery & other material) from the area prior to development commencing. This will assist in providing a relative date for the Stone Age & Iron Age use of and settlement in the area. For this an archaeological sampling permit will be required from SAHRA.
- Should any archaeological or any other physical cultural resources be discovered subsurface or surface during construction, the appointed Environmental Control Officer (ECO) responsible for the development and/or heritage authorities should be informed.
- Such discoveries ought to be protected (preferably in situ) and the ECO should alert SAHRA (South African Heritage Research Agency) so that appropriate mitigation (e.g. recording, sampling or collection) can be taken.

➤ Cumulative Impacts:

No cumulative impacts of any significance were identified for this project.

OPERATIONAL PHASE

➤ Direct Impacts:

Impact: Alien Invasive Plant Proliferation

Construction, human and vehicle movement and introduction of foreign material e.g. soils may lead to the introduction of alien invader species, impacting on the floral characteristics of the project site and adjacent natural areas. Proliferation of AIP species in riparian areas are especially problematic due to the relative ease of AIP transport to downstream areas.

	No Mitigation	With Mitigation
Extent	Regional (3)	0.6 (Medium) ME
Duration	Long term (4)	
Magnitude	Medium (3)	
Probability	Highly likely (4)	
Weighting factor	Medium to High (4)	
Significance Rating (SR)	Medium (56)	Low to medium (34)

Recommended mitigation measures:

- A management plan for the control of invasive and exotic plant species needs to be implemented. Specialist advice should be used in this regard. This plan should include pre-treatment, initial treatment and follow-up treatment. Removal of alien and invasive species must continue for a two year maintenance period after development, on a biannual basis.

Impact: Reduction of erosion and sedimentation

Currently vehicles are driving across a deteriorated river crossing which is resulting in an increase in erosion on the river banks as well as sedimentation into the river. When construction of the bridge is complete these banks will need to be rehabilitated and stabilised. This will result in a reduction in sediment input to the river which will improve the ecological integrity of the river.

	No Mitigation	With Mitigation
Extent	Regional (3)	1.6 (Medium Positive) ME

Duration	Long term (4)	
Magnitude	Medium (3)	
Probability	Likely (3)	
Weighting factor	Medium (3)	
Significance Rating (SR)	Low to Medium (39) - Positive	Medium to High (62) - Positive
Mitigation Measures:		
<ul style="list-style-type: none"> Banks must be rehabilitated, including re-establishment of vegetation cover. Continued maintenance of the bridge, i.e. removing debris from the culverts and repair of the approach embankments after period of heavy rainfall. 		

Impact: Road Safety and traffic

Once the bridge has been reconstructed, it will provide a much safer access route for vehicles in comparison with the current crossing.

	No Mitigation	With Mitigation
Extent	Regional (3)	1.6 (Medium Positive) ME
Duration	Long term (4)	
Magnitude	Medium (3)	
Probability	Likely (3)	
Weighting factor	Medium (3)	
Significance Rating (SR)	Low to Medium (39) - Positive	Medium to High (62) - Positive

Mitigation measures to enhance the positive impact:

- Place barriers along the sides of the crossing.
- Place clear signage at either ends of the crossing.
- Road maintenance checks and any necessary maintenance work must be conducted on an annual basis especially in the period following heavy rains or flooding.

➤ Indirect Impacts:

No indirect impacts of any significance were identified for the Operational phase of this project.

➤ Cumulative Impacts:

No cumulative impacts of any significance were identified for the Operational phase of this project.

DECOMMISSIONING PHASE

Direct Impacts:

There are no impacts related to the decommissioning phase of the proposed project. This is due to the fact that the low-level crossing is intended to be a permanent fixture along the DR 01763 for the foreseeable future.

Indirect Impacts:

As per the above statement.

Other Alternatives

There are no alternatives considered for the proposed project as the preferred alternative will be the only means of achieving the objectives of the project which is to construct the bridge.

No-go Alternative

➤ Direct Impacts:

Impact: Loss of vegetation and Species of Conservation Concern

Under the no-go option the vegetation will be impacted on further by the current land use.

	Impact Significance
Extent	Regional (3)
Duration	Long term (4)
Magnitude	Medium (3)
Probability	Likely (3)
Weighting factor	Medium (3)
Significance Rating (SR)	Low to Medium (39)

Impact: Alien vegetation

Under the no-go option alien vegetation may proliferate due to human and vehicle traffic through the existing river crossing.

	Impact Significance
Extent	Regional (3)
Duration	Long term (4)
Magnitude	Medium (3)
Probability	Likely (3)
Weighting factor	Medium to low (2)
Significance Rating (SR)	Low to Medium (26)

Impact: Impacts on sensitive ecosystems in terms of erosion and sedimentation

Under the no-go option, sedimentation and erosion of the river bank is already evident. This will continue to get worse under the no-go scenario.

	Impact Significance
Extent	Regional (3)
Duration	Long term (4)
Magnitude	Medium (3)
Probability	Likely (3)
Weighting factor	Medium (3)
Significance Rating (SR)	Low to Medium (39)

Impact: Road Safety	
If the status quo remains, the low-level crossing will continue to decrease in its level of safety. Additional damage to the low-level crossing will eventually result in an unusable crossing that could result in road accidents.	
	Impact Significance
Extent	Regional (3)
Duration	Long term (4)
Magnitude	Medium (3)
Probability	Likely (3)
Weighting factor	Medium to High (4)
Significance Rating (SR)	Medium (52)
➤ <u>Indirect Impacts:</u>	
Impact: Road Detour	
If the bridge is not constructed, the road will eventually become unusable and an alternative route will have to be used. This will result in additional traffic on other roads in the area and will also increase the travel time and distance for much of the local community. Furthermore, it is likely that another informal river crossing will be created in a different section of the river.	
	Impact Significance
Extent	Regional (3)
Duration	Long term (4)
Magnitude	Medium (3)
Probability	Likely (3)
Weighting factor	Medium to High (4)
Significance Rating (SR)	Medium (52)

3. ENVIRONMENTAL IMPACT STATEMENT

Taking the assessment of potential impacts into account, please provide an environmental impact statement that summarises the impact that the proposed activity and its alternatives may have on the environment after the management and mitigation of impacts have been taken into account, with specific reference to types of impact, duration of impacts, likelihood of potential impacts actually occurring and the significance of impacts.

Alternative A (preferred alternative)

The project footprint is situated in an ephemeral tributary of the Rapholo River. An existing dirt road crossing is situated over the stream. The affected watercourse is currently impacted by extensive erosion, vehicle crossings and sand mining activities. These impacts are intensified by the lack of vegetation due to livestock grazing and wood harvesting on the river banks and surrounding areas.

No wetlands are present within a 500 m radius of the proposed project area.

The primary surface water impacts associated with the proposed bridge construction project are the potential impacts on water quality degradation due to alterations in flow resulting in erosion and subsequently an increase of sedimentation of

the downstream watercourses.

According to the National Vegetation Map (2018) the project site falls within the Sekhukhune Plains Bushveld (SVcb 27) vegetation type. The Sekhukhune Plains Bushveld is not listed in the “National List of Ecosystems that are Threatened and need of protection”. However, the 2018 National Biodiversity Assessment lists the Sekhukhune Plains Bushveld vegetation type as Endangered (EN).

The study area is entirely situated in an area classified as Other Natural Areas (ONA) in terms of the LCP.

Only one broadly classified Vegetation Unit (VU) was found to occur on the study area: Plains Bushveld. Eighty-three (83) plant species were identified as occurring in the study area during the site survey. Of this number 10 have medicinal uses and four are exotic, two of which are categorised as AIP in terms NEMBA.

Fifty (50) fauna species had been observed to occur throughout the study site and extended project area surveyed and none of the species are of national conservation concern.

Based on the findings of both the desktop assessment and the site survey, the study area has been assigned the following sensitivity ratings in terms of terrestrial ecology aspects:

- The Plains Bushveld vegetation unit, which is situated in the 100 m extended project footprint buffer, is classified as having a moderate sensitivity due to the 2018 National Biodiversity Assessment listing the Sekhukhune Plains Bushveld vegetation type as Endangered (EN). However, due to the impacts to the VU, this VU is considered to be moderately to heavily impacted. Based on the vegetation structure and characteristics, this VU is considered representative of the Sekhukhune Plains Bushveld vegetation type, albeit modified.
- The watercourse and 20 m sensitivity buffer, in which the project footprint is located, is classified as having a high sensitivity due to the VU consisting of natural vegetation which is considered representative of the vegetation type within which it occurs. The watercourse, although impacted, still has valuable corridor movement ecological value, including habitat and refuge to species utilising this type of terrain.

The impacts of the proposed project to the terrestrial ecology of the affected area were generally rated “Low to Medium”, with the potential impact of the introduction or proliferation of AIP species to surrounding ecosystems rated as “Medium”. With the consideration of implemented mitigation measures impacts to vegetation was rated as “Low” and “Low to Medium”.

Background research indicates that there are some cultural heritage (archaeological & historical) sites and features in the larger geographical area within which the study area falls, while some sites with an archaeological origin & significance were identified and recorded in the study area and proposed development site boundaries.

The proposed project is expected to have economic benefits in the form of temporary employment creation as well as through the sourcing of equipment and construction material from local suppliers.

Impact	No mitigation	With mitigation
Construction Phase		
Soil compaction and erosion	Low to Medium (20)	Low (12)
Loss of floral biodiversity	Low to Medium (26)	Low to Medium (21)
Alien Invasive Plant Proliferation	Medium (56)	Low to medium (34)

Loss of Species of Conservation Concern and Sensitive Habitats	Low to Medium (26)	Low to Medium (21)
Pollution of river	Low to medium (20)	Low (16)
Sedimentation and erosion within the river	Low (18)	Low (11)
Air Pollution (Dust)	Low (18)	Low (11)
Noise Pollution	Low (18)	Low (11)
Traffic Impacts	Low to Medium (36)	Low (29)
Impact: Solid Waste Generation	Low (18)	Low (11)
Impact: Employment Creation and Local Economy	Low to Medium (22) - Positive	Medium (36) - Positive
Heritage Resources	Medium (52)	Low to Medium (21)
Operational Phase		
Alien Invasive Plant Proliferation	Medium (56)	Low to medium (34)
Reduction of erosion and sedimentation	Low to Medium (39) - Positive	Medium to High (62) - Positive
Road Safety and traffic	Low to Medium (39) - Positive	Medium to High (62) - Positive

The employment of mitigation measures will reduce the overall significance of the negative impacts as well as enhance the overall significance of the positive impacts, as summarised above.

It is clear from the summary of the impacts that the preferred alternative is favourable as opposed to the 'No-go' option (below). The preferred alternative not only contains several positive impacts, but also has no negative impacts of Medium significance (after the consideration of the implementation of mitigation measures), as opposed to the No-go alternative (see below). As a result, it is recommended that a positive environmental authorisation is issued for the proposed project.

No-go alternative (compulsory)

Impact	Significance
Loss of vegetation and Species of Conservation Concern	Low to Medium (39)
Alien Invasive Plant Proliferation	Low to Medium (26)
Impacts on sensitive ecosystems in terms of erosion and sedimentation	Low to Medium (39)
Road Safety	Medium (52)
Road detour	Medium (52)

The 'No-Go' alternative refers to not implementing any of the proposed project activities described in this report. The option of not proceeding with the proposed project will result in the continuation of the status quo and denied opportunity to provide safe access to services to the local community during rainy periods, local infrastructure development as well as changes to the local communities in terms of employment (temporary). All impacts on the receiving environment that likely to result during the Construction and Operational Phases of the proposed project will not transpire.

Alternative B

Alternative C

SECTION E. RECOMMENDATION OF PRACTITIONER

Is the information contained in this report and the documentation attached hereto sufficient to make a decision in respect of the activity applied for (in the view of the environmental assessment practitioner)?

YES	
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If "NO", indicate the aspects that should be assessed further as part of a Scoping and EIA process before a decision can be made (list the aspects that require further assessment):

If "YES", please list any recommended conditions, including mitigation measures that should be considered for inclusion in any authorisation that may be granted by the department in respect of the application:

- Mitigation measures both in this Basic Assessment as well as in the EMPr must be adhered to,
- The appointment of an ECO should be done prior to commencement of the construction activities,
- The ECO should complete site audits and audit reports on a bimonthly basis,
- Inspection and, if necessary, maintenance of the low-level crossing should be conducted annually.

Is an EMPr attached?

The EMPr must be attached as Appendix F.

YES	
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SECTION F: APPENDIXES

The following appendixes must be attached as appropriate:

Appendix A: Site plan(s)

Appendix B: Photographs

Appendix C: Facility illustration(s)

Appendix D: Specialist reports

Appendix E: Comments and responses report

Appendix F: Environmental Management Programme (EMPr)

Appendix G: Other information

SECTION G: DECLARATION BY THE ENVIRONMENTAL ASSESSMENT PRACTITIONER

I, **Nicole Upton**

declare that I –

- (a) act as the independent environmental practitioner in this application;
- (b) do not have and will not have any financial interest in the undertaking of the activity, other than remuneration for work performed in terms of the Environmental Impact Assessment Regulations, 2014;
- (c) do not have and will not have a vested interest in the proposed activity proceeding;
- (d) have no, and will not engage in, conflicting interests in the undertaking of the activity;
- (e) undertake to disclose, to the competent authority, any material information that has or may have the potential to influence the decision of the competent authority or the objectivity of any report, plan or document required in terms of the Environmental Impact Assessment Regulations, 2006;
- (f) will ensure that information containing all relevant facts in respect of the application is distributed or made available to interested and affected parties and the public and that participation by interested and affected parties is facilitated in such a manner that all interested and affected parties will be provided with a reasonable opportunity to participate and to provide comments on documents that are produced to support the application;
- (g) will ensure that the comments of all interested and affected parties are considered and recorded in reports that are submitted to the Department in respect of the application, provided that comments that are made by interested and affected parties in respect of a final report that will be submitted to the Department may be attached to the report without further amendment to the report;
- (h) will keep a register of all interested and affected parties that participated in a public participation process; and
- (i) will provide the Department with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not.



Signature of the Environmental Assessment Practitioner:

Red Kite Environmental Solutions (Pty) Ltd

Name of company:

25 July 2022

Date: