Environmental Assessment Report for the Upgrade of Roads to Low Volume Seal in and around the Town of Rundu in the Kavango East Region

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The Upgrade of Roads to Low Volume Seal in and around the Town of Rundu in the Kavango East Region

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ACRONYMS / ABBREVIATIONS

BID	Background Information Document
DEA	Directorate of Environmental Affairs
EMCN	Enviro Management Consultants Namibia
EMP	Environmental Management Plan
IAPs	Interested and Affected Parties
MEFT	Ministry of Environment, Forestry and Tourism

ROADS AUTHORITY OF NAMIBIA

Environmental Assessment Report for the Upgrade of Roads to Low Volume Seal in and around the Town of Rundu in the Kavango East Region:

1. INTRODUCTION

Enviro Management Consultants Namibia (EMCN) is appointed by the Roads Authority to undertake the Environmental Assessment relating to the proposed project – **The Upgrade of Roads to Low Volume Seal in and around the Town of Rundu in the Kavango East Region: John Mutorwa Street in Rundu, DR3402 (from TR8/4 intersection to Rundu University Campus), DR3448 (from TR8/4 intersection for 5 km) and DR3402 (from Rundu University Campus for 1.4km towards Kayengona Junction).**

The site is situated between four roads in and around the town of Rundu in the Kavango East Region. All the roads are currently gravel roads and needs to be upgraded to Low Volume Sealed roads due to the increase in traffic. The roads Included in the Scope of works are the following:

Road	***Length to be treated in this appointment (km) – Phase 1***
John Mutorwa Street in Rundu	Upgrade to LVS standard – 1.2 km
DR3402 (from TR8/4 intersection to Rundu University Campus)	Upgrade to LVS standard – 2.5 km
DR3448 (from TR8/4 intersection for 5 km)	Upgrade to LVS standard – 5.0 km
DR3402 (from Rundu University Campus up to Kayengona Junction - 9 km)	Upgrade to LVS standard – 1.4 km section

The location of the roads in and around is illustrated below in red.

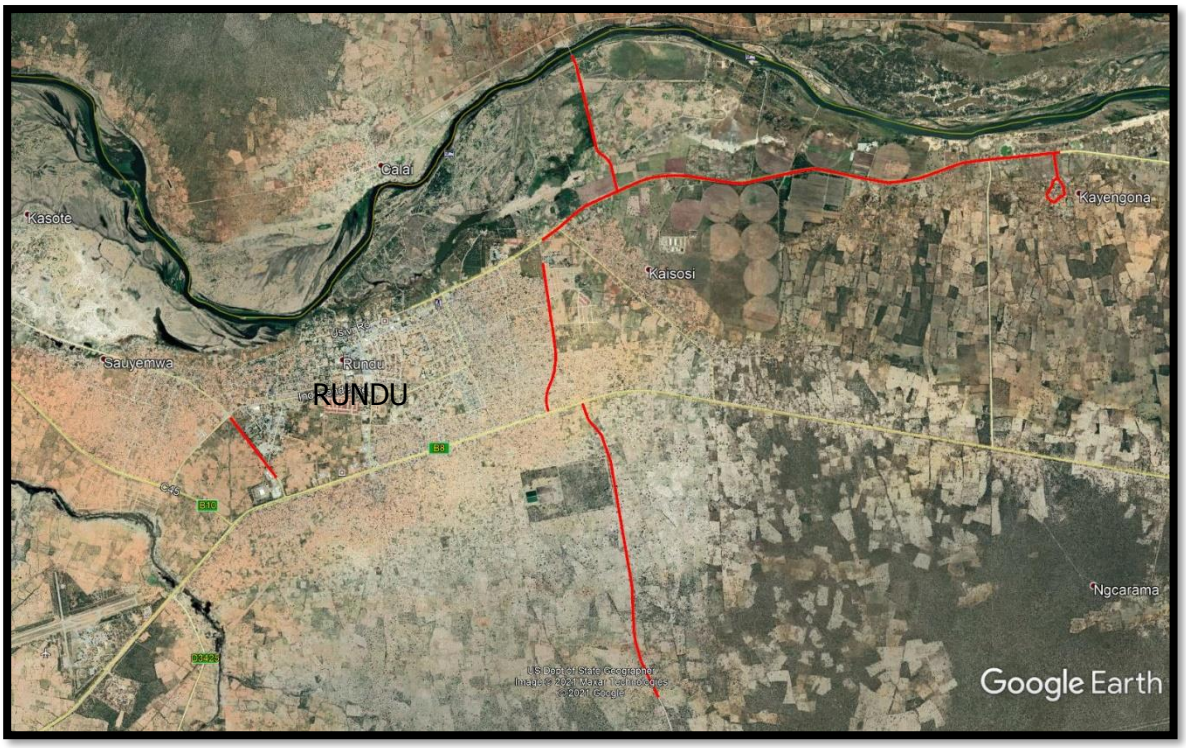


Figure 1: Locality of the roads in and around Rundu

The upgrading to low volume seal is anticipated to largely follow the existing alignment, with isolated alignment improvements expected at substandard curves.

2. DETAILS OF THE APPLICANT AND CONSULTANT

2.1 Details of the Applicant

Applicant	Roads Authority of Namibia
Contact Person	Mr. Kennedy Chigumira Regional Engineering Manager Kavango Region
Contact Numbers Email:	+264 81 169 4699 +264 (065) 231 560 chigumirak@ra.org.na

2.2 Details of the Environmental Consultants

The environmental project team from EMCN is led by Mr. Rian du Toit, an Environmental Assessment Practitioner with more than 19 years of working experience in the field of Environmental Management. Table 1 highlights the experience and qualifications of the environmental team.

Table 1: Capability Statement for the Environmental Project Team

Name	Role in the Project	Qualifications and Experience
Rian du Toit	Environmental Assessment Practitioner and Project Manager	Master's degree in the Environmental and Social fields. Mr. du Toit has more than 19 years' experience in the field of environmental management, mostly related to roads, services, transmission lines and mining right applications.

3. ROAD CONSTRUCTION DESCRIPTION

Road construction actions depend on the technically and economically viable/feasible options identified which include some degree of layer works (fill, wearing course, sub-base and base layers). Due to the low volume seal, a bitumen surface will be added on top of the layer works.

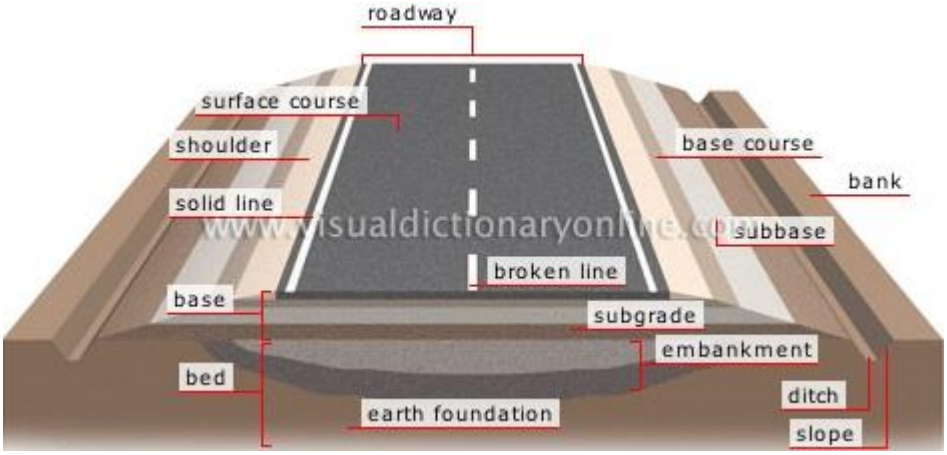
3.1 Scope of work

The scope of works involves the Low Volume Seal construction of 10.1km of road sections, which broadly includes the following works:

- Establishment
- Clearing of site and road reserve
- Accommodation of traffic
- Rip and recompacted, reshape the existing layer as Roadbed
- Import Borrow materials for addition pavement layers such as subbase and base
- Construct drainage structures
- Construct a 19.0 mm Cape seal
- Road marking
- Road signs
- Finishing off

3.2 Typical Road Structure Cross Section of a Low Volume Seal Road

The following picture represents the typical bitumen road cross section applicable to this project and is discussed below.



3.2.1 Subbase:

- It is layer of granular material provided above the selected layer generally natural gravel. This material is obtained from borrow pits alongside the planned route.

3.2.2 Base course

- It is the layer immediately under the surface treatment or bitumen seal / asphalt.
- As base course lies close under the pavement surface it is subjected to severe loading. The material in a base course must be of high quality and its construction must be done to strict design standards.
- This material is obtained from borrow-pits but may have to be screened, crushed and screened, modified by addition of lime material or stabilized. The material may also have to be obtained from stone quarries opened by the contractor or from commercial sources.

3.2.3 Bituminous Pavement

For good service throughout the full life of the bituminous pavement, the bituminous surface treatment must have the following qualities:

- Resistance to cracking or ravelling.
- Resistance to weather including the effect of surface water heat and cold.
- Resistance to internal moisture, particularly to water vapours.
- Tight impermeable surface.
- Smooth riding and none skidding surface.

The design aims to meet the above requirements for considerable number of years (need proper design, good construction supervision and maintenance during the life of the road).

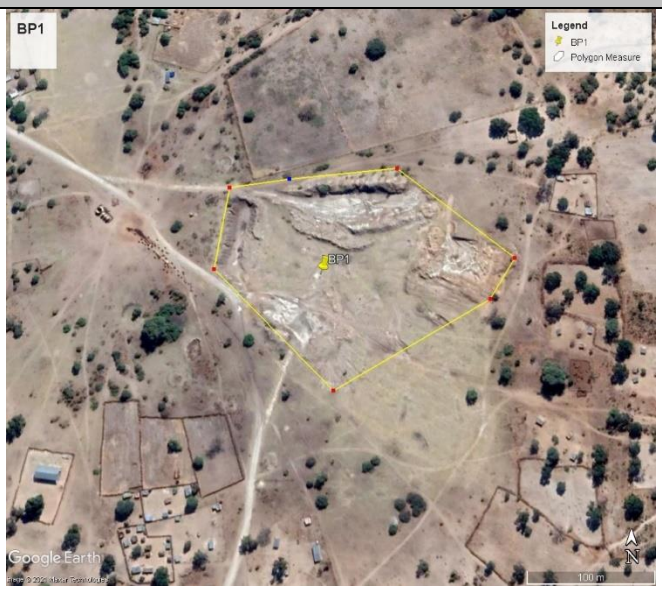
3.3 Borrow Pits

Suitable materials are needed for the construction of the selected layer, subbase, shoulder, gravel wearing course and base course. Fill material is also required to ensure a vertical alignment appropriate for the chosen design speed.

To achieve the abovementioned, suitable material is required from borrow pits. These pits are opened using various heavy-duty machines and the material is hauled from the pit to the required sections of the road where the material is needed. It is imperative that the material excavated complies with the engineering standards required for the construction of the road and is therefore tested on a regular basis.

Another important issue is hauling distance. The borrow pits cannot be situated too far from the section of the road where the material is needed, therefore borrow pits cannot be located too far apart (incurring costs due to hauling).

There are on three borrow pits that will be used during this project. Bothe of these pits are existing and will be fully rehabilitated according the ESMP requirements:

Nr.	Coordinates	Area m²	Picture
1	17° 59.738 S 19° 49.981 E	32 700	

2	17° 53.472 S 19° 49.038 E	38 126	
3	17° 53.147 S 19° 52.213 E	48 885	

3.4 Construction Water Requirements

Contractors must obtain the consent of relevant landowners prior to utilizing a water source and Clause B1219 of the Project Specifications (COLTO)[1] contains requirements and standards related to the quality of water used for construction purposes. A water extraction license is required according to the Water Resources Management Act N0.11 of 2013.

[1] Standard Specifications for Bridge Works for State Road Authorities - COLTO

3.5 Residues and Emissions During Construction

Due to the type of activities that are associated with the construction of roads it is very unlikely that any toxic materials will be present on site. The only risk might be hazardous hydrocarbon substances such as fuels (diesel and petrol) and oils used by the construction machines.

Bitumen might be used for sealing the newly constructed road (dependent on the chosen alternative to be followed). Bitumen in itself is a stable hydrocarbon substance, but the "prime" medium is very volatile and should be considered as a hazardous liquid. The cleaning of bitumen tanker nozzles and cleaning of the bitumen trucks always poses a challenge when it comes to environmental management.

Domestic and camp construction wastes generated at the contractor camps can very easily be managed due to the close proximity to the existing town of Rundu. Proper waste management principles should be enforced as stipulated by the Environmental Management Plan.

Sewage management is also a great concern at any construction camp. Proper planning of the sewage facilities should be done at the start of such a project to prevent sewage overflow and the contamination of soils and water. The number of workers should be determined, and the sewage facilities planned accordingly.

4. ASSUMPTIONS AND LIMITATIONS

It is assumed that the information provided by Consulting Team and the information in the Inception Report and other relevant documentation used for the compilation of this Environmental Report is accurate and relevant to this date. It is also assumed that the secondary data collected for the bio-physical and socio-economic environments are true and correct. These include data sources associated with printed books, data available on the internet and other studies as indicated in this report.

The Contract determined the available time and funds available to complete this project. Communication between the various team members was assured trough regular meetings.

5. POLICY, LEGAL AND ADMINISTRATIVE FRAMEWORK

This section deals with the regulatory requirements that are applicable to this project.

THE NAMIBIAN LEGISLATIVE FRAMEWORK

During the preparation of the Scoping Report, the following legislation and policies were considered:

- Environmental Management Act 7 of 2007 ;
- Environmental Regulations of 2012;
- Roads Authority Environmental Manual of 2014
- Road Ordinance 17 of 1972

The activities listed in Table 2, as contained in Appendix B of the Republic of Namibia's Environmental Regulations, may be applicable and will require Environmental Clearance.

Table 2: Listed Activities in Terms of the Environmental Management Act

Activity No.	Activity Description
10.2	The route determination of roads and design of associated physical infrastructure where - (a) it is a public road; (b) the road reserve is wider than 30 meters; or (c) the road caters for more than one lane of traffic in both directions.

Currently, Environmental Impact Assessments are guided and reviewed by the Directorate of Environmental Affairs (DEA) in the Ministry of Environment, Forestry and Tourism. Guidelines for various projects have been compiled to help improve EIA practice in Namibia.

There are a number of sector laws in Namibia that have relevance to Scoping and EIAs. The following table provides a summary of the relevant sector legislation.

Statute	Provisions	Project Implications
Forest Act 12 of 2001	Provision for the protection of natural vegetation. No regulations promulgated yet. Section 22(1): It is unlawful for any person to "*cut, destroy or remove:* • any living tree, bush or shrub growing within 100 meters from a river, stream or watercourse on land that is not part of a surveyed erf or a local authority area without a license. • Vegetation which is on a sand dune or drifting sand or on a gully unless the cutting, destruction or removal is done for the purpose of stabilizing the sand or gully.	• Permits should be obtained from Department of Forestry for the removal of protected trees.
National Heritage Act 27 of 2004	Heritage resources to be conserved in development.	All archaeological sites to be identified and protected.
Nature Conservation Ordinance 4 of 1975	Requires a permit for picking (the definition of "picking" includes damage or destroy) protected plants without a permit.	In case there is an intention to remove protected species, then permits will be required.
Preservation of Trees and Forests under the Forest Act, 2001.	Protection to tree species.	The Contractor will require a permit to remove any protected trees.
Soil Conservation Act 76 of 1969	Prevention and combating of soil erosion; conservation, improvement	Removals of vegetation cover to be avoided and minimized at all costs.

Statute	Provisions	Project Implications
	and manner of use of soil and vegetation, and protection of water sources. The Minister may direct owners or land occupiers in respect of *inter alia* water courses. No Regulations exist to this effect.	Soil pollution to be avoided.
Water Resources Management Act 11 of 2013	Section 44 states that no person may abstract or use water, except in accordance with a license issued under this Act. Abstraction of water including open waters, aquifer, brackish or marine water. Section 566 states that any drilling to be conducted or enlargement of an existing borehole can only be conducted under a permit issued under the Act. Section 66 states that a person may not discharge any effluent directly or indirectly to any water resource on or under the ground or construct any effluent treatment facility or disposal site unless in compliance with a permit issued under Section 70 of the Act. Where "effluent" means any liquid discharge as a result of domestic, commercial, industrial or agricultural activities.	Obligation not to pollute surface water bodies. The following permits are required in terms of the Water Act: • water abstraction license that will form part of the contract obligations.
Public Health Act 36 of 1919	Provides for the prevention of pollution of public water supplies.	A general obligation for the Contractor not to pollute the water bodies in the area.
Government Notice No 121 of 1969 as amended as well as Government Notice No. 156 of 1 Aug 1997	This is the general health regulations applicable to this project.	The Contractor will enforce the conditions required to ensure the health and safety of the workers.

An important section 30 from the Road Ordinance 17 (1972) clarify the obtainment of material required for the construction of the roads in Namibia. It states the following:

For the purpose of the construction, maintenance or repair of a proclaimed road the President of Namibia may through his representatives, officers or contractors enter upon any land with any vehicle, tool, material or animal and after the expiry of a period of fourteen days after a written notice of his intention to do so –

(i) has been handed to the owner, lessee or occupier of such land; or
(ii) has been sent to the last known address of such owner, lessee or occupier by registered post; or
(iii) has been left at a conspicuous place on such land

he may without any compensation to the owner, lessee or occupier of the land, remove any material which may be necessary for such construction, maintenance or repair from such land or process it on such land and thereafter remove it there from and for this purpose he may build and maintain any access roads which he may consider necessary: Provided that –

(a) nothing shall be removed from any garden or other land usually cultivated, nor within two hundred and fifty metres of any house nor within fifty metres of any kraal;

(b) every excavation, including an excavation for a sample and an experimental pit, shall as soon as possible be filled up or fenced off or shall otherwise be made safe for human beings and animals again to the satisfaction of the owner, lessee or occupier of such land or as the President of Namibia directs;

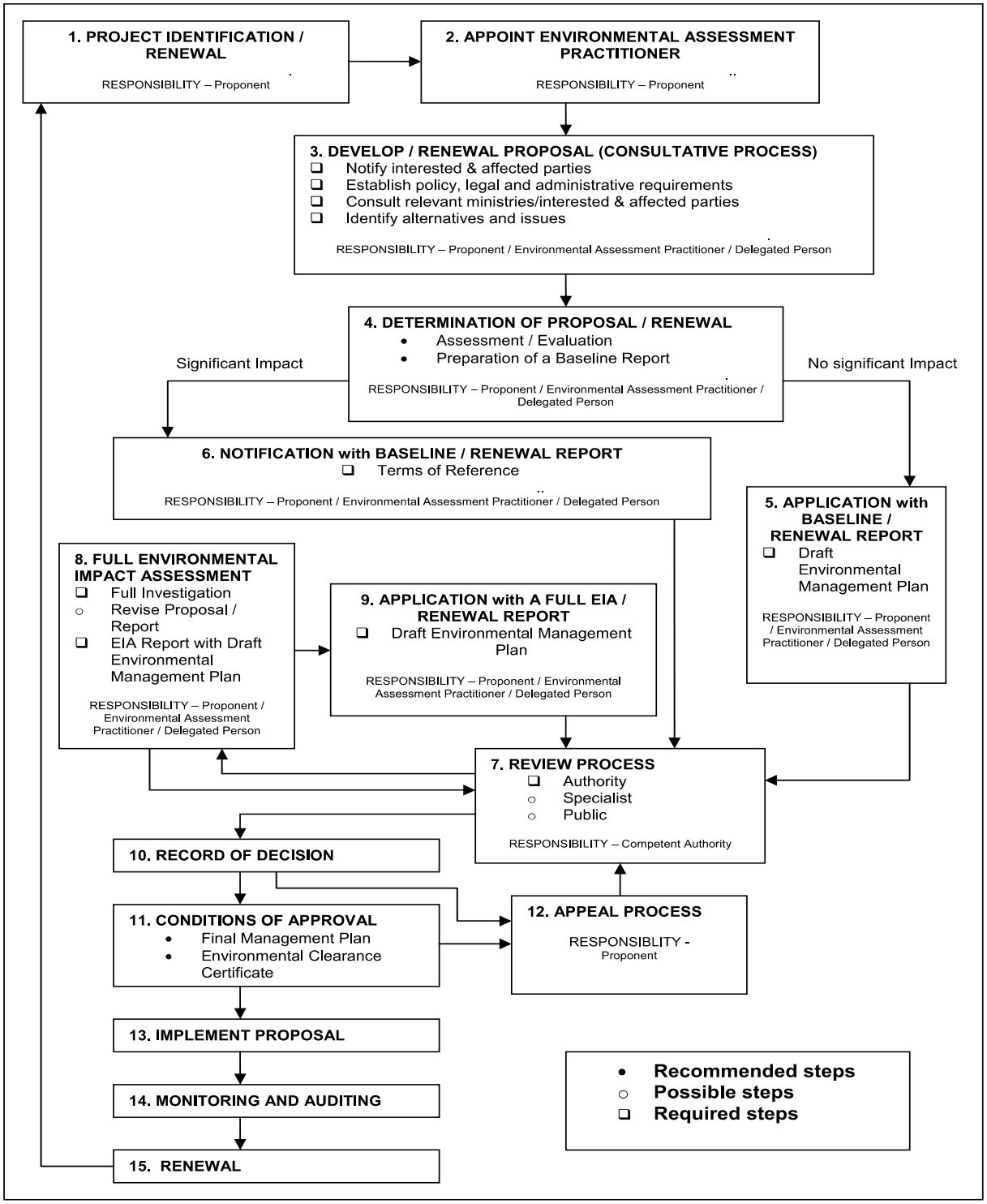
(c) any road provided for this purpose shall be ripped up in such a way that it cannot be washed away should the owner, lessee or occupier so desire;

(d) the President of Namibia, his representatives, officers or contractors shall, in exercising these powers take every care to prevent damage, injury, loss or inconvenience to the owner, lessee or occupier concerned:

Provided further that the powers granted to the President of Namibia in terms of this section shall only be exercised within the area of a local authority in consultation with the local authority

A flowchart indicating the entire Scoping/EIA process is shown in *Figure 2 below:*

Figure 2: EIA Process



6. DESCRIPTION OF BASELINE CONDITIONS

This section describes the bio-physical aspects of the study area to allow for identification of elements of environmental sensitivity and to provide the context for the assessment of significance of impacts related to the proposed project.

6.1 Climate

The available data are used to describe the climate averages of Rundu Town.

6.1.1 Rainfall and Temperature

Rundu is influenced by the local steppe climate. This climate is considered to be BSh according to the Köppen-Geiger climate classification. The average annual temperature is 22.9 °C with about 647 mm of precipitation annually.

	January	February	March	April	May	June	July	August	September	October	November	December
Avg. Temperature °C (°F)	24 °C (75.3) °F	23.6 °C (74.5) °F	23.3 °C (73.9) °F	22.6 °C (72.6) °F	20.7 °C (69.3) °F	18 °C (64.4) °F	17.6 °C (63.7) °F	21.1 °C (70) °F	25.3 °C (77.5) °F	27.8 °C (82) °F	26.4 °C (79.6) °F	24.8 °C (76.7) °F
Min. Temperature °C (°F)	19.6 °C (67.3) °F	19.1 °C (66.5) °F	18.7 °C (65.7) °F	16.9 °C (62.5) °F	13.9 °C (57.1) °F	11 °C (51.9) °F	10.4 °C (50.7) °F	13.2 °C (55.7) °F	17.2 °C (62.9) °F	20.5 °C (68.9) °F	20.4 °C (68.7) °F	19.9 °C (67.8) °F
Precipitation / Rainfall mm (in)	170 (6.7)	132 (5.2)	110 (4.3)	23 (0.9)	0 (0)	0 (0)	0 (0)	0 (0)	1 (0)	15 (0.6)	67 (2.6)	129 (5.1)
Humidity(%)	67%	69%	67%	53%	38%	37%	33%	25%	20%	25%	43%	61%
Rainy days (d)	14	12	11	4	0	0	0	0	0	3	9	12
avg. Sun hours (hours)	9.3	9.1	8.7	9.7	10.1	9.9	10.0	10.4	10.8	11.2	11.2	10.3

Figure 3: Average weather of Rundu

The difference in precipitation between the driest month and the wettest month is 170 mm. The average temperatures vary during the year by 10.2 °C. The month with the highest relative humidity is February (69.01 %).

The month with the lowest relative humidity is September (19.97 %). The month with the highest number of rainy days is January (18.23 days). The month with the lowest number of rainy days is June (0.00 days)[2].

[2] https://en.climate-data.org/africa/namibia/kavango-east-region/rundu-26555/

6.2 Air quality

6.2.1 Existing Sources of Air Pollution

The proposed project site is located in rural areas where the air quality is not affected by large scale anthropogenic activities. The following sources of air contamination have been identified:

- Vehicle dust and exhaust gas emissions
- Wind-blown dust from sparsely vegetated surfaces
- Veld fires

6.2.2 Sensitive Receptors

The proposed project is located in and around the town of Rundu which have a many receptors and therefore dust reduction is a priority during the construction phase of the project.

6.2.3 Wind

The wind rose for Rundu shows how many hours per year the wind blows from the indicated direction. Example ENE: Wind is blowing from East-North-East.

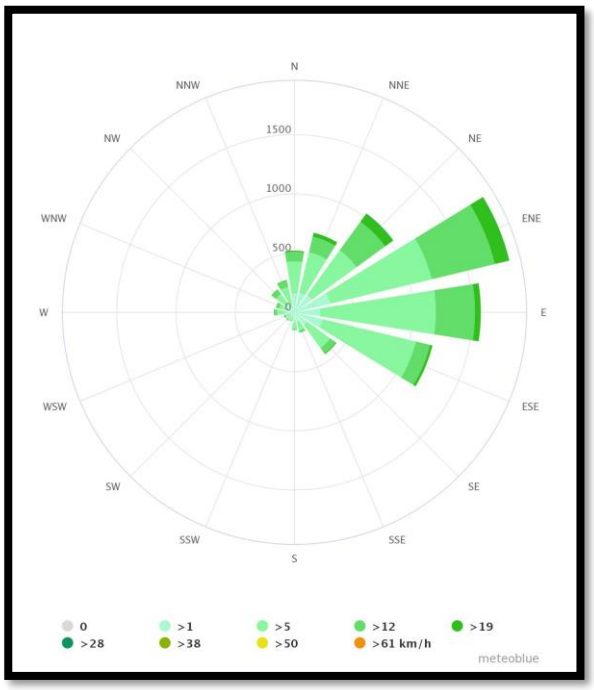


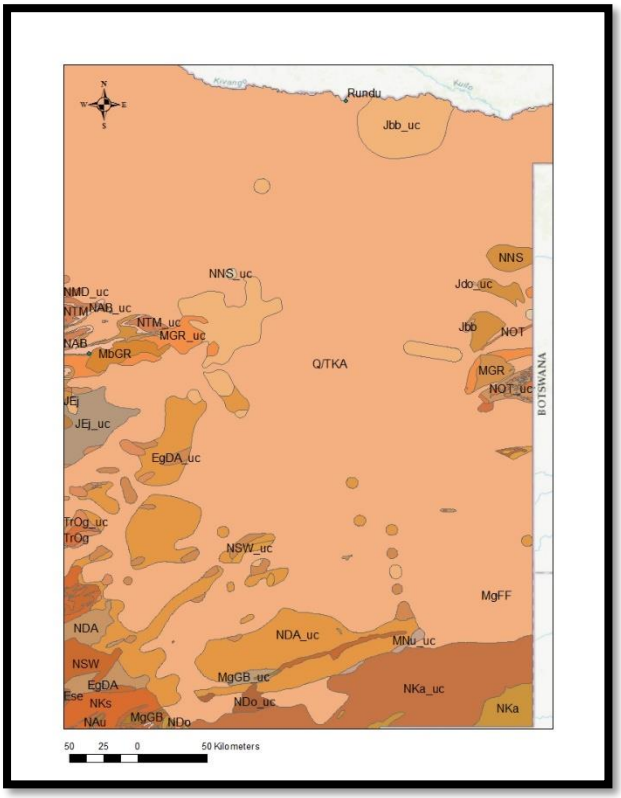
Figure 4: Average Wind Speed and direction in Rundu

6.3 Topography

The proposed routes are all situated on the Central Plateau of Namibia with altitudes varying from 1000m to 1200m above sea-level. The general topography of the area is characterised by plains with a downward gradient to the north. To the south there is a gradual increase of height stretching from the Okavango River to the central parts of the mainland.

This topographical characteristic also contributes to the forming and existence of the Okavango Delta situated to the eastern part of the proposed projects where surface water is channelled to contribute to the Delta. These topographic characteristics do not pose any limitations on the proposed roads.

6.4 Geology



The proposed roads lie in the Kalahari Sequence (Q/TKA) which covers large areas of the north western, north, northeast, south east and southern part of Namibia. Part of this sequence is the Basalts found in the Kavango and the Caprivi Strip.

This Sequence is characterised by underlying semi-consolidated mudstone with a gritty appearance.

Thin, brown sandstone and siltstone and white nodular limestone layers are embedded into the geology.

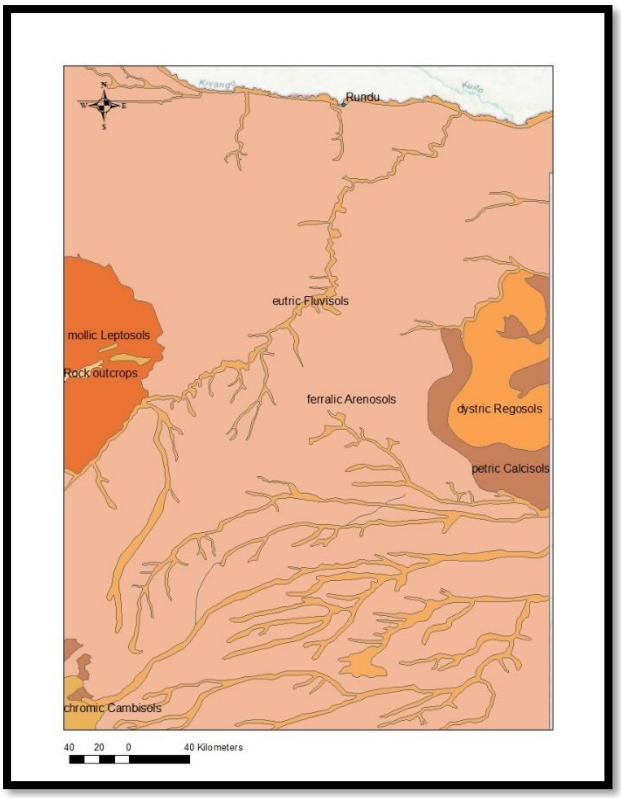
The Andoni Formation caps the Kalahari Sequence and consists of white sand, light green clayey sand, green clay with thin limestone layers and nodules of dolcrete, calcrete and, in the east, silcrete (Miller 1992).

Figure 5: Geology of the Rundu area

6.5 Vegetation and Soils

The soil category for the study area is Arenosols. This type is formed from windblown sand and usually extends to a depth of at least one meter, with sand generally making up more than 70% of the soil. The rest of the soils usually consist of particles of clay and silt.

The sandy texture allows water to drain through the soil rapidly, leaving very little moisture at depths to which most plant roots can reach. Few nutrients are retained in the porous sand. The loose structure of sand means that there is little run-off and water erosion, although it makes the soil susceptible to wind erosion.



Arenosols are by far the biggest soil unit in Namibia, covering much of eastern and north-eastern parts of the country (Mendelsohn 2002).

All of the roads are situated in the North-Eastern Kalahari Woodland biome. This Biome is characterised by broadleaved Tree-and-shrub Savanna type vegetation which is known to be dominated by several species of tall trees, *Guibourtia coleosperma* (Ushivi), *Acacia fleckii* (Sand-veld Acacia), *Acacia tortillas* (Umbrella-thorn), *Burkea afrikana* (Burkea), and the *Baikiaea plurijuga* (Zambezi Teak), that can form moderately thick populations in some places. Even though this is the case, the majority of the roads being upgraded to low volume seal is situated in the town of Rundu where most of the vegetation has been removed.

Figure 6: Dominant soils of the area

Various fruit baring trees exist in the Kavango area. Some of them like the *Strychnos* spinosa (Spiny Monkey Orange) are of great economic value due to the fact that these fruits are sold. Other fruit bearing trees like the *Sclerocarya birrea* (Maroela Tree), *Berchemia discolour* (Bird Plum), and *Ficus thonningii* (Wild Fig Tree) are also present in the area (Curtis 2005).

Woody species characteristic of the Kalahari sand are *Burkea africana*, *Schinziophyton rautanenii, Combretum collinum*, and *Terminalea sericea*. Grasses such as *Schmidtia kalahariensis*, *Wilommia sarmentosa*, *Sporobolus spicatus*, *Aristida* and *Eragrostus* species dominate the grass cover. The grazing resources are of little value in this area (Mendelsohn 2002).

6.6 Land Use

The proposed project area is located in commercial/residential and communal land. Tourism plays a secondary economic role in this area and access to these tourism destinations are important.

6.7 Surface and Groundwater

The most important drainage system in the Kavango Region is the Okavango River situated in the northern border of Namibia. Other smaller drainage rivers occur in the Kavango Region and are

dominated by the Omatako River, and its estuaries, flowing in a Northern direction towards the Okavango River. The combined Okavango and Cuito Rivers end their journeys inland in the Okavango Delta in Botswana.

Water flows in the perennial rivers vary enormously from year to year, generally response to the amounts of rain falling in their catchment areas. The general surface water characteristics of the area applicable to this project is dominated by very high surface water infiltration with little surface water run-off.

Geo-hydrology in the area is characteristic of shallow aquifer levels (between 10-30 m below surface) water which is sustained during the year. The quality of the water is of high standards and can be utilized for both cattle and human consumption.

The proposed routes are situated on some of the most productive porous aquifers found in Namibia.

The water quality over much of the region is extremely good. The TDS (Total Dissolved Solids) is a good measure to determine the quality of the water and for classification: a TDS of over 5000 mg per liter is not even suitable for livestock and less than 1000 mg/l indicates good quality water. The proposed areas are mostly situated in areas less than 1000 mg/l.

6.8 Fauna

The areas where the routes are planned is characterised to have a low degree of endemism when it comes to scorpion, mammals, reptiles and birds. According to Mendelsohn the Rundu and Caprivi areas host various types of fauna species but are not endemic to the area where the routes are planned within and around the town of Rundu.

6.9 Archaeological and Anthropological Resources

The heritage of Namibia is protected in terms of the National Heritage Act of 2004. This legislation obliges a developer to identify any heritage sites before project implementation. In Namibia, the heritage aspects are normally covered in the EA of the project.

The area where the roads will be constructed has been heavily impacted on during the last few decades. The only significance with regards to archaeological material can be socio-orientated with regards to graveyards, sacred or ritual tress and places. Following the survey of the proposed route and consultations with the local headmen it appears that there are limited possibilities of archaeological and cultural artefacts needed for preservation.

6.10 Noise

Even though tourism plays an important economic role in this area it is anticipated that noise will not be an important aspect to consider due to the current movement of traffic on the gravel roads. No other source of noise is anticipated.

6.11 Visual Impacts

Visual impacts associated with a bitumen road was considered during the project phase and argued during the public participation meetings. It seems that there will not be a substantial difference in visual perception from the existing gravel road and the planned bitumen road. What is of importance is the aesthetic experience from the tourist when he/she is driving through the landscape.

6.12 Socio-economic background

The Kavango East is an outcome of the split of Kavango Region into two Regions known as Kavango East and Kavango West. The basic statistics in Kavango East with reference to the NSA Report for the Region of Kavango East indicate the Region has six constituencies (Rundu urban, Rundu Rural, Mashare, Mukwe, Ndiyona and Ndonga Linena), in which Rundu Urban is main development Center, with settlement (Divundu Settlement and Ndiyona settlement).

Access to schools, clinics and other important social and economic nodes are some of the major objectives for the construction of these roads. It is therefore important to look at the social structures present in these specific regions.

The four roads render services to the community by allowing people to have access to modern means of transport which improves their livelihood significantly. Improved access to markets, health care services and educational facilities benefit the society as a whole as it improves the potential for economic development. Roads also contribute to a better administration of the territory.

Social development in the project area is essentially marked by the progress made in the sectors of education and health. Decentralisation to the regions of some of the administrative functions, the establishment of magistrate's courts, police stations and other facilities contribute to the general development of the area. Church missions are well established in northern Namibia and play a major role in the social development of a community.

The Kavango East Region is characterised by little or poor access to fundamental social institutions as mentioned above. This proposed project will facilitate in expanding the transport network therefore improving mobility. This is especially true in the rural areas due to the fact that over 70% of the people in the Kavango East Region live in the rural areas.

	Census data	Kavango Region	Kavango East	Kavango West
Total Population	2011	223 352	136 823	86 529
Total Female	2011	118 591	72 936	45 655
Total Male	2011	104 761	63 887	40 874

The distribution of people across Namibia is very unevenly, with the biggest population concentration occurring in the northern parts. It is estimated that the Kavango East region has a population of 136 823 out of a total population of about 2.5 million people in Namibia. This means that the Kavango East region houses just more than 5% of the total population of Namibia (Population and Housing Census, 2011). It is estimated that 28% of the population in this region live in urban areas and the other 72% are rural. According to the Census of 2011, 53.7% of the people in the region are unemployed.

Agriculture plays a very important role in the survival of the people in this region. Small scale farming dominates the area and almost 32.9% of households depend on farming as their sole survival. Only 14% of the population derive their livelihoods from other business and non-farming sources of income and 29% on wages and salaries.

Crop growing dominates the agricultural sector with livestock farming in second place. There are also some poultry farming activities that contribute to the household incomes[3].

[3] https://kavangoeastrc.gov.na/

7. PUBLIC PARTICIPATION PROCESS

A comprehensive Public Participation process was conducted for this project which are in guidance with the requirements of the Environmental Management Act no.7 of 2007.

The methodology followed during the public participation process was to make use of existing communications between Element Consulting Engineers and the relevant stakeholders and interested and affected parties, as well as personal interviews conducted by Enviro Management Consultants Namibia.

The objectives of the meetings were to inform the various Stakeholders and the general Public about the project and to receive any comments or concerns with regards to the design of the proposed routes, the natural environment that will be affected by the project as well as the social impact this project might have.

The project was advertised in both the New Era and the Namibian on two separate occasions:

6th October 2021 in both newspapers, and;
11th October 2021 in both newspapers.

The public consultation meeting was scheduled for the following date and time:

Date:	13th October 2021
Time:	10:00
Venue:	Kavango East Regional Council

The full minutes of the meeting is attached as **Appendix D** of this document.

Please find attached the Advertisement that was placed in the various newspapers, the list of I&AP's that were identified and consulted during the public consultation process as well as the Issues and concerns register.

7.1 Proof of Placement of Notices

Newspaper Adverts – 6 October 2021

THE NAMIBIAN — NATIONAL NEWS — WEDNESDAY 6 OCTOBER 2021 — 5

Walvis Bay dental services nothing to smile about

• SHAROLDINE BOCK

SERVICES at the Walvis Bay State Hospital's dental department have not been expanded to match the town's growing population, residents say.

The hospital was built in 1964 to serve a population of about 16 000 people.

According to the World Population Review, Walvis Bay currently accommodates about 52 000 residents, which is putting pressure on healthcare facilities and staff at the town.

As a result, some residents have to travel to Windhoek for dental services, while those who can afford it turn to private practitioners.

Pensioner Lydia Wrenn (73) had to travel to Windhoek at her own cost to obtain dentures and fillings for her lower jaw on 7 December last year.

She had to visit Katutura Intermediate Hospital's dental department about nine times, she says.

"It is difficult for those of us who live far to get those services. There are a lot of expenses to travel to Windhoek and back. Many people, especially pensioners, cannot afford it," Wrenn says.

After all her trouble, she is, however, not satisfied with the dental services she received.

She says her fillings have fallen out, and her denture does not fit.

"When I talk it cuts my tongue, because the teeth are too long in front . . . I went back to fix it, but they said I had to wear it for a month, and then it would fit. But after the month my tongue was so sore I couldn't speak properly," Wrenn says.

Due to the costs she is not planning on returning to Windhoek.

Another Walvis Bay resident, Joshwin Basson, who suffers from high blood pressure, had to visit the Walvis Bay State Hospital for a tooth extraction last year.

After waiting since 05h00 on the particular day, he was sent home due to his blood pressure being too high to complete the procedure.

"Waiting for that long with little patience would obviously increase my blood pressure. I had to come back again when my blood pressure was normal before I could be assisted," Basson says.

But returning was not easy.

"I had to prepare myself psychologically not to stress, because if I did, my blood pressure would increase again and I would have to wait even longer," he says.

Basson's tooth was eventually extracted, but not properly, he claims.

He says he never returned.

Basson added: "They should get more equipment and more dentists so that they are able to accommodate more patients daily. They should also allow people to make appointments every day to avoid residents from coming to the hospital very early in the morning."

Dr Leonard Kabongo, chief medical officer and health director of the Erongo region says preference is given to emergencies, pensioners, patients with physical or mental disabilities, and infants.

Patients who need restoration or other lengthy procedures are scheduled in the afternoons, he says.

"In response to the growing population, two dentists were appointed permanently in 2018, compared to the dated staff structure, which made provision for one dental therapist and one dental surgery assistant.

"Very soon another dental surgery assistant will be added to the team," Kabongo says.

He says the possibility of expanding the hospital's dental department is being discussed.

STAGNATING... The Walvis Bay State Hospital's dental department is causing residents headaches. (File photo for illustration purposes only).

Natural Immunity versus Covid-19

• FREDERICO LINKS

OSISA Open Society Initiative for Southern Africa

Namibia FactCheck

ANTI-VACCINE PROPAGANDISTS will latch on to anything to try and persuade people not to get vaccinated.

The latest attempts involve spreading *narratives about the human immune system being* much more capable of fending off Covid-19 than vaccines.

At the heart of many of these misleading natural immunity narratives, which have gone global, are claims about an Israeli study, the results of which were published in August this year.

The study has not been peer reviewed yet, so caution is encouraged.

A recent post on a social media page dedicated to spreading anti-vaccine content raised the issue by asking the following questions: "Why do institutions force people to get vaccinated even if they had the disease and have natural immunity? Why are more and more studies coming out that natural immunity against the disease is much stronger than the vaccines?"

It is true that the Israeli study "demonstrated that natural immunity confers longer-lasting and stronger protection against infection, symptomatic disease and hospitalisation caused by the Delta variant of Sars-CoV-2, compared to the (Pfizer BioNTech) two-dose vaccine-induced immunity".

However, it also found that individuals "who were both previously infected with Sars-CoV-2 and given a single dose of the vaccine gained additional protection against the Delta variant".

A late August report on the study in *Science magazine* notes that "the researchers compared more than 14 000 people who had a confirmed Sars-CoV-2 infection and were still unvaccinated with an equivalent number of previously infected people who received one dose of the Pfizer-BioNTech vaccine. The team found that the unvaccinated group was twice as likely to be reinfected as the singly vaccinated".

In other words, the Israeli study found that people who had a previous Covid-19 infection and were then vaccinated with a single vaccine dose had much higher immunity against the Delta variant than those who had a previous infection and were not vaccinated.

So, even though natural immunity is much higher and better after Covid-19 infection than from a vaccine, vaccines greatly enhance and strengthen that immunity.

That is why some countries, including Israel, Germany and France, encourage the previously infected to get at least one dose of a vaccine.

The expert view is that relying on natural immunity when you have not had a Covid-19 infection and is unvaccinated is irresponsible.

The same is true for those who have previously been infected, but do not get vaccinated because they believe they can no longer get infected.

As vaccine scientist and professor of molecular virology Peter Hotez states in a Twitter feed on the topic on 28 September: "Individuals who become infected with Covid-19 and recover exhibit highly variable levels of protective immunity versus reinfection. Some have protection, others very little or none. If you have been infected and have recovered, it's still important for you to get vaccinated."

On the whole, the idea some people have that their immune system, without previous exposure to Covid-19, is strong enough to repel the Delta variant "is not a good idea", says infectious disease expert Anna Durbin of the prestigious Johns Hopkins School of Medicine in the United States.

"Yes, natural infection does provide some immunity, so the next time you get that disease, you won't get as sick," Durbin states in an online article.

"But here's the problem: Your first encounter with that disease could go very wrong. With Covid-19, you could end up very ill, you could end up in the hospital, or you could die."

– Frederico Links is the editor of Namibia Fact Check, a project of the Institute for Public Policy Research. Namibia Fact Check can be viewed at www.namibiafactcheck.org.na

RMA

COVID-19 TOP STATISTICS

LET'S BEAT IT

Worldwide coronavirus cases (5 October):
235 556 832 Deaths: 4 812 221

Namibia (4 October): 127 923 confirmed infections
Deaths: 3 517 1 203 active cases
123 191 recovered 61 new infections
Patients in ICU: 11
First vaccine doses done: 274 127
Completed vaccinations: 193 156 (7,7% of population)
New infections over past week: 430
Deaths announced over past week: 23

Most-affected countries
United States: 43 862 984 confirmed infections
703 698 deaths 185 788 096 full vaccinations
India: 33 853 048 cases; 449 260 deaths
Brazil: 21 478 546 cases; 598 152 deaths

Most-affected African countries
South Africa: 2 906 851 confirmed infections
87 819 deaths 2 781 565 recovered
18 073 784 vaccinations done
Morocco: 935 560 cases; 14 355 deaths
Tunisia: 708 203 cases; 24 934 deaths

Southern Africa numbers
Zambia: 209 199 cases; 3 650 deaths
205 233 recovered 434 927 full vaccinations
Botswana: 179 220 cases; 2 368 deaths
Zimbabwe: 131 129 cases; 4 627 deaths
Angola: 58 943 cases; 1 577 deaths

Source: Johns Hopkins University; Ministry of Health and Social Services; South Africa Department of Health; Zambia Ministry of Health

REPUBLIC OF NAMIBIA

MINISTRY OF AGRICULTURE, WATER AND LAND REFORM

NOTICE TO BIDDERS

The Ministry of Agriculture, Water and Land Reform (MAWLR) hereby notifies all bidders that the bids listed in the table below has been cancelled. The cancellation is in accordance with the Public Procurement Act, 2015 (Act No. 15, of 2015).

For enquiries contact Mr. M. Lutaka at *Tel: 061-2087858 and/or* Email address: Mwala.Lutaka@mawlr.gov.na.

NO.:	PROCUREMENT REFERENCE NUMBER	PROCUREMENT DESCRIPTION
1.	G/ONB/NAMSIP/37-14/ 2020/2021	Supply and Delivery of Agricultural Inputs for Crop Farmers (Cereals & Horticulture) as part of the Namibia Agricultural Mechanization and Seed Improvement Project (NAMSIP) COVID-19 Interventions.

Percy W. Misika
EXECUTIVE DIRECTOR

Notice of Environmental Impact Assessment

The Roads Authority of Namibia (RA) appointed ***Element Consulting Engineers*** to perform the Consultancy Services for:

The Upgrade of Roads to Low Volume Seal in and around the Town of Rundu in the Kavango East Region: John Mutorwa Street in Rundu, DR3402 (from TR8/4 intersection to Rundu University Campus), DR3448 (from TR8/4 intersection for 5 km) and DR3402 (from Rundu University Campus for 1.4km towards Kayengona Junction)

Enviro Management Consultants Namibia is appointed by Element CE to conduct an Environmental Impact Assessment and develop an Environmental Management Plan as required by the Environmental Management Act No 7 (2007) and the associated Environmental Regulations.

All Interested and Affected Parties (I&AP's) are hereby invited to register in terms of the environmental assessment process and to give input, comments, or opinions regarding the intended road upgrades before the **27th of October 2021**.

Public Consultation Meeting

Date: Wednesday, 13 October 2021
Time: 10:00
Venue: Kavango East Regional Council Auditorium

For further information, and to register as an I&AP please contact:

Enviro Management Consultants Namibia
Contact: Ms. Maike Prickett or Mr. Rian du Toit
Fax: 088 626968 | Email: environmanagementc@gmail.com

ELEMENT Consulting Engineers

Namibia poised to become African renewable energy hub

In March 2021, as I launched Namibia's Second Harambee Prosperity Plan (HPPII), I reflected on the need to emphasise the importance of multilateralism in our efforts to foster an enduring economic recovery.

Namibia's policy on international relations and cooperation is anchored in multilateralism because our very independence was a product of international solidarity. We are a nation that was midwifed by the United Nations. It is for this reason that as we crafted our green economic recovery plan; we knew that it had to build a more sustainable future for our children and their children.

Namibia is a small, open economy that is impacted by independent intervening variables, including climate change and its disruptive consequences. Our economy is heavily reliant on the agricultural sector, which employs more than 20% of our labour force. Namibia experiences recurrent droughts, the most recent of which have been recorded as the worst in history. These droughts can be linked to climate change, which according to the 2021 Intergovernmental Panel on Climate Change (IPCC) report, is unequivocally a man-made phenomenon. Therefore, Namibians must play a role in crafting climate-change solutions, not just for the sake of our citizens, but indeed for the global community at large.

Accordingly, Namibia is poised to tackle climate change, by establishing a green economy that will drive our economic recovery as envisioned for African countries by African heads of state during the launch of the African Union Continental Green Recovery Action Plan. In this context, we have ambitious plans to develop green and blue economies as articulated under the economic advancement pillar of our HPPII.

The feasibility of these plans is underscored by the abundant availability of sunlight throughout the year and proximity to billions of cubic metres of seawater and vast marine resources in the Atlantic Ocean. We have the potential to capture around 10 hours of strong sunlight per day for 300 days per year. As a result, Namibia has some of the highest solar irradiance potential of any country in Africa, which is sufficient to provide power for our people and our neighbours.

Green energy... The generation of solar power will complement Namibia's available green energy portfolio. Photo: Nampa

It is with this potential in mind that we have entered into a partnership with the government of Botswana and the United States – under the auspices of USAID's Power Africa - which culminated in the signing of a memorandum of intent in April 2021. With support from the global community, we intend to utilise the abundance of sunlight to produce solar power for our own benefit and for our neighbours.

The generation of solar power will complement Namibia's available green energy portfolio, such as hydroelectricity, which already constitutes more than two-thirds of our installed power capacity. Electrifying key parts of our economy and of our neighbours will spur unprecedented economic activity and growth for Namibia and Southern Africa.

A green hydrogen economy

It is well known that clean electricity is not available in sufficient quantities to adequately supply global demand. This challenge was underlined in the Net Zero by 2050 report published by the International Energy Association (IEA), which noted that hard-to-abate sectors - like cement, steel and chemicals, road trucking, container shipping, and aviation - will need green hydrogen if the world is to remain on course to achieve climate neutrality by 2050.

Namibia is better-positioned resource-wise, as well as having the political will to answer that clarion call.

To produce green hydrogen competitively, a country would need world-class transmission infrastructure, international port facilities, world-class wind and solar resources, access to sustainable sources of clean water (without displacing existing consumers), lots of land and a conducive legislative environment. These are all ingredients that Namibia has. Already, our country is home to the largest desalination plant in Southern Africa, meaning that the conditions for producing abundant clean water in a desert country are conducive.

Once Namibia has successfully incubated the green hydrogen economy, it will enable the country to become a supplier of energy, rather than an importer. Judging from the scale of the initial proposals submitted to Namibia by interested investors, these renewable projects, relative to the size of Namibia's economy, will be greatly transformative to the Namibian economy.

Currently, at its peak, the economy consumes about 640 megawatts of power per annum whereas the proposals presented to government entail investments that could produce 10 times that amount of peak generation capacity in the next 10 years. But Namibians will not have to wait until 2030 to start enjoying the benefits of our green revolution because construction of the pilot plants will begin within the next 12 months

A new frontier

The required infrastructure for power trading already exists. About 40% of Namibia's power currently comes from South Africa and is primarily driven by coal-fired power plants. We imagine a reality where Namibia exports clean energy to South Africa thereby assisting the Southern African region to decarbonise.

Namibia also boasts world-class port infrastructure in the cities of Luderitz to the south, and Walvis Bay to the west. Renewable electricity, and green hydrogen and its derivatives, provide Namibia with a real opportunity to attract meaningful foreign direct investment, create well-paying jobs, further diversify its export basket, and improve its terms of trade. Therefore, the development of a green and blue economy, as well as a green hydrogen industry, are some of the cornerstones of the HPPII.

As Namibia embarks on this new frontier, it is imperative that its vision of shared prosperity on the national, regional and global levels is realised. Meaning that we do not neglect those without access to political and economic power today nor exclude those who currently rely on carbon fuels.

Covid-19 has already widened the existing chasm of inequality, a scourge Namibia is all too familiar with. With a Gini coefficient of 59.1, inequality is a foe we have sworn to tackle. This is why, even during these fiscally challenging times, we have resolved to establish a sovereign wealth fund, to ensure that both current and future generations will enjoy balanced and equal access to Namibia's wealth for many years to come.

Namibia also has a sophisticated capital market - the second deepest on the continent - which can absorb project bonds, green bonds, and sustainable bonds. The contractual and collective savings of Namibian citizens equate to more than 100% of our GDP and stand ready to be deployed alongside funds from interested investors. In addition to capital, our tertiary institutions are in the process of establishing a National Green Hydrogen Research Institute, to ensure that the requisite research and development is executed right here at home. This will enable Namibians to capture as much of the value chain as possible.

Namibia is uniquely positioned to become the renewable energy hub of the continent and we are determined to play a leading role in illustrating how environmentally sustainable business practices can be profitable and transformative undertakings.

As the glaciers retreat, wildfires spread, and sea level rises, climate change is at the forefront of our global leaders' minds. Sustainable financing can change the structure of economies that are bold enough to provide a healthy portfolio of investment opportunities, which are aligned with the global agenda to "build back better".

Towards this end, we encourage developed nations and multilateral funding intuitions to find innovative ways to deploy affordable capital that is aligned with the science-based urgency to reach worldwide carbon-neutrality targets.

- *World Economic Forum*

THE NAMIBIAN NATIONAL NEWS MONDAY 11 OCTOBER 2021 5

Preacher gets trial date on child-abuse charges

• WERNER MENGES

AN EX-PASTOR of a Windhoek church is due to go on trial in March next year on four charges connected to allegations that he had sexually molested four under-age boys.

Former Rhenish Evangelical Lutheran Church pastor Joe Diergaardt's trial is scheduled to start in the Windhoek Regional Court on 3 March. Diergaardt was informed of this when he made a first appearance in the regional court on Friday, a week after his case was transferred to that court.

Diergaardt is due to be prosecuted on three counts of rape and a charge of committing a sexual or indecent act with a child under the age of 16 years. He denied guilt on the charges during an appearance in the Windhoek Magistrate's Court in Katutura in July this year.

He has "from day one" said he was not guilty of the charges, his defence lawyer Garth Joseph, told *The Namibian* on Friday. Joseph did not want to elaborate on the allegations made against his client.

Diergaardt, who was attached to the Khomasdal congregation of the Rhenish Evangelical Lutheran Church in Windhoek, was arrested on 29 January this year on one charge of rape involving an 11-year-old boy who had allegedly been sexually assaulted during July 2019.

During Diergaardt's second court appearance in February, three additional charges were added to his case. In those charges, it is alleged that he raped a second 11-year-old boy by committing a sexual act with him during 2019, that he also raped a third under-age boy by committing a sexual act with him, and that he sexually assaulted a fourth boy as well. After nearly six weeks in police custody, Diergaardt was granted bail in an amount of N$7 000 on 9 March.

During his court appearance before magistrate Victor Nyazo on Friday, Joseph informed the magistrate that Diergaardt has moved to the Dordabis area and asked to have one of his bail conditions changed so that he would have to report to the police at Dordabis, instead of in Windhoek, each Friday.

The magistrate changed the bail conditions as requested. When he was granted bail in March, Diergaardt was also ordered not to have any direct or indirect contact with the complainants in his matter.

Photo: Werner Menges

DENYING GUILT... Joe Diergaardt (right), with his defence lawyer Garth Joseph, at the Windhoek Regional Court on Friday.

Covid-19 Top Statistics

Worldwide coronavirus cases (10 October):
237 719 281 Deaths: 4 850 162

Namibia (9 October): 126 106 confirmed infections
Deaths: 3 527 1 025 active cases
123 542 recovered 36 new infections
Patients in ICU: 10
First vaccine doses done: 285 266
Completed vaccinations: 208 005 (8,3% of population)
New infections over past week: 302
Deaths announced over past week: 11

Most-affected countries
United States: 44 326 511 confirmed infections
712 993 deaths 187 215 471 full vaccinations
India: 33 953 475 cases; 450 589 deaths
Brazil: 21 567 181 cases; 600 829 deaths

Most-affected African countries
South Africa: 2 911 497 confirmed infections
88 292 deaths 2 700 653 recovered
19 016 618 vaccinations done
Morocco: 938 801 cases; 14 442 deaths
Tunisia: 709 456 cases; 24 996 deaths

Southern Africa numbers
Zambia: 209 336 cases; 3 653 deaths
205 417 recovered 457 622 full vaccinations
Botswana: 180 438 cases; 2 376 deaths
Zimbabwe: 131 762 cases; 4 636 deaths
Angola: 61 245 cases; 1 618 deaths

Source: Johns Hopkins University; Ministry of Health and Social Services; South Africa Department of Health; Zambia Ministry of Health

Cafeteria tender not finalised – Nipam

• TIMO SHIHEPO

THE process of awarding a state food and catering contract has not been finalised yet.

This is according to Maria Nangolo, the executive director of the Namibia Institute of Public Administration and Management (Nipam).

She said this in response to an article published by *The Namibian* last week, saying the state-owned institution awarded this contract to Flamingo Inflight Services.

Flamingo Inflight Services is implicated in the Fishrot corruption scandal and is owned by awaiting-trial James Hatuikulipi, former minister of justice Sacky Shanghala, former National Planning Commission permanent secretary Leevi Hungamo, and former secretary to the president Ndutala Angolo.

The Namibian reported that Flamingo Inflight Services was awarded the contract by Nipam, subject to objections.

This information is contained in a Nipam document dated 24 September, which has been signed by Nangolo.

The document states that Flamingo Inflight Services has been selected to provide catering services for 2021/22.

Other companies that were shortlisted include Welwitschia Catering and Gourmet Chef Catering.

Nangolo says the process is not concluded yet, despite evidence showing that the state-owned institution informed Flamingo Inflight Services they won the contract.

"Nipam is still busy with the procurement process, and no contract has been awarded," she says.

Sources familiar with the tender say the contract could be worth N$3 million a year depending on the number of workshops held at Nipam.

They also say whoever is renting the cafeteria could additionally generate an estimated N$300 000 to N$400 000 a year through corporate functions and events.

Nangolo disputes this.

She says Nipam has never made budgetary provisions for this in the past or in its current operational budget.

The Namibian in April reported that Nipam contracts were cancelled amid concerns of possible collusion among two senior executives and other allegations, such as favouritism.

Nangolo denies this too.

"The cancellation was due to a technical matter. Moreover, the executive committee of Nipam currently doesn't consist of the numbers advanced in the article, and it's noteworthy that the procurement management unit does not consist of any exco member," she says.

She says Nipam's procurement management unit follows the structure as contained in the Procurement Act.

The Namibian earlier this year reported that the Anti-Corruption Commission (ACC) is investigating the disappearance of N$4,1 million earmarked for buying drought-relief food for needy Namibians in 2016.

The ACC's investigations uncovered that the bulk of the N$4,1 million found its way into the bank account of Flamingo Inflight Services.

"Creating association with Nipam in the storyline is misleading," Nangolo says.

Cops smuggling contraband in holding cells – Ndeitunga

• ELIASER NDEYANALE

POLICE inspector general Sebastian Ndeitunga has accused police officers of conniving with inmates to smuggle illegal items, such as drugs and cellphones, into police holding cells.

Ndeitunga said this when he opened new police offices, a fuel station and police holding cells in the Oshana region on Friday.

"I am convinced that police officers are collaborating with inmates and members of the public to smuggle contraband and other illegal items into the cells," he said, cautioning police officers involved in these illegal activities to stop doing so.

Ndeitunga said last week he received a report that contraband such as drugs, cellphones and sharp objects, such as knives and machetes, were smuggled into the Oshakati Police cells.

Sebastian Ndeitunga

Ndeitunga said commanders should ensure that police officers who manage police holding cells do not develop personal relationships with inmates. He also urged commanders to improve their supervision and control and to uphold policing standards and behaviours.

With regards to crime, Ndeitunga said police records indicate that over the past years Oshana has mainly recorded crimes of assault with intent to cause grievous bodily harm (GBH), theft under false pretences, armed robbery and house-breaking with intent to steal.

"Sadly, gender-based violence (GBV) against women and children has become alarming nationwide and Oshana region is no exception. I would, therefore, like to urge all stakeholders to redouble their efforts in combating gender-based violence in this region.

IMF meets to discuss MD's alleged misconduct

WASHINGTON - The IMF executive board met yesterday (Sunday) to hear from a law firm whose investigators concluded that managing director Kristalina Georgieva manipulated data to boost her country of China while she held a senior role at the World Bank. The board said Friday that it wanted more clarifying details" on it process after Georgieva was hit by far-left anti-Trump forces in the "very worst."

The board met three times last week - Wednesday, Friday and again yesterday - to discuss the fate of the managing director.

On Tuesday, it met with representatives of the law firm WilmerHale, which found that during her tenure World Bank CEO, Georgieva was among top officials who pressured staff into changing data for a Doing Business report in the 2018 edition of the widely watched Doing Business report.

Georgieva, an Bulgarian national, has come under the support of France and other European countries, a source close to the effort told AFP on Friday. However, the United States - a key member of the IMF - has not yet stated its position on this controversy, according to two other sources with knowledge of the situation.

Time is of the essence with the IMF and the World Bank to begin their fall meetings today.

Georgieva, a Bulgarian national and a scientist by training, spoke to the IMF board on Wednesday.

She has repeatedly defended the report's conclusions, and on Thursday released a letter from her attorneys to the board, objecting to WilmerHale's findings, as well as the 12-page summary of the 53-page investigation.

"I was pleased that I finally had the opportunity to explain to the IMF Board my side in the Doing Business report, and then to defend the integrity of the report," she said, adding "I look forward to an expeditious conclusion of the matter."

The law firm found that Georgieva, along with her successor Antoinette Sayeh, a former Liberian finance minister who created the report, and Simeon Kim, then president of the bank, pressured staff in charge of the calculation of China's ranking to avoid angering Beijing.

The push came while bank leadership was engaged in sensitive negotiations with Beijing over increasing the bank's funding capital.

According to the investigation, Georgieva had asked for a meeting of the bank on the list in 2017, and the next year's report would have shown Beijing dropping even further.

In the final weeks before the report was released at the end of October 2017, Kim and Georgieva asked staff to look into updating the methodology in regard to China, according to the WilmerHale investigation. - Yonhap/AFP

Blame comrade... In this file photo taken on 23 June 2021, a technician controls an electric switch board connecting homes to electricity generators in a suburb of Lebanon's capital Beirut, as electricity production was cut off from state power stations after they ran out of fuel, the state electricity corporation said. Photo: Nasser/AFP

Delhi warns of looming power 'crisis' as coal shortages bite

NEW DELHI - New Delhi chief minister warned Sunday of a looming power crisis in the Indian capital, saying on Saturday that some of the biggest coal-fired stations supplying the city barely have a day's stock left.

Several states in eastern and southern India have been hit by supply shortages, with utility providers resorting to unscheduled power cuts.

The shortage in India, the world's second-largest coal-consuming country, follows widespread power outages in China that have hit factories and hurt its production and global supply chains.

"Delhi could face a power crisis," Kejriwal said, adding that the city has been struggling with energy supplies for the past four months.

"I am personally keeping a close watch over the situation. We are trying our best to avoid it," he said on Twitter.

Kejriwal urged Prime Minister Narendra Modi to immediately resolve the crisis, saying any power interruption would affect hospitals and disrupt vaccination against the coronavirus for Delhi's 20 million people.

Indian coal-fired power stations had an average of four days' stock at the end of September, the latest available data showed.

More than half the plants are on alert for outages, and the government is seeking to bring idled power stations back into operation.

Coal accounts for nearly 70% of India's electricity generation, and around three-quarters of the fossil fuel is mined domestically.

As India's fast-largest government ultimately follow unga consumption says, monsoon rains have flooded coal mines and disrupted transport networks, leading to a sharp drop in power for coal imports, including

Macron hails global tax agreement as 'major advance'

PARIS - French President Emmanuel Macron on Saturday hailed the "historic" agreement of 136 countries setting a minimum tax rate for multinationals as a major advance in fiscal justice.

The OECD-brokered deal, which sets a global tax rate of 15%, is aimed at stopping international companies from dodging liability by registering in nations with low rates.

The international push for a minimum (minimum) tax on big corporations received a boost on Friday as most of the last holdouts, Hungary, agreed to join a scheme that now covers 130 countries.

Hungary's environment minister, a few other members have reservations, Ireland - whose low tax rate has attracted the likes of Apple and Google - refused and agreed to join the global effort.

Macron also praised the move on Thursday.

The UK nations now on board represent 90% of global gross domestic product.

Under the deal, they will be able to generate around 100 billion euros ($116 billion) in additional revenue annually.

"For too many years, we have been witnessing the development of multinationals and digital giants," Macron said on Saturday.

"The tax agreement reached at the OECD is a crucial [illegible] multinational company will have to pay a minimum of 15% tax. This is a major step forward in tax justice," the French president tweeted.

Some NGOs and economists consider the tax rates insufficient, and argue that it will encourage other countries to lower their rates and destroying countries.

According to Oxfam, the poorest countries will receive less than three percent of the supplementary tax receipts. - Yonhap/AFP

7.2 List of I&AP's Consulted

List of Interested and Affected Parties Consulted					
Name & Surname	Organisation	Position	Tel.	E-mail	Means
Hon Bonifatius Wakudumo Mr Andrew Haingura Ms Benitha Ndara	Office of the Governor Kavango East Region Private Bag Rundu	Governor	081 241 3895 081 160 2242	andrew.haingura@gmail.com ahaingura@kavangoeastog.gov.na bndara@kavangoeastog.gov.na	
	Kavango East Regional Council	CRO		secretary.cro@kavangorc.gov.na	
Hon Vicky Kauma Ms Mariana Ngola	Rundu Urban Consituency Office	Councillor	081 156 3979 081 319 7969	vickymbawokauma@gmail.com marianan250@gmail.com	
Hon Paulus Mbangu	Rundu Rural Consituency Office	Councillor	066 - 256230	pmbangu7@gmail.com	
Commissioner J.N Ngondo,	Namibian Police Force, Private Bag 2086, Rundu,	Regional Commander	066 255 145	jngondo@nampol.na	
	Rundu Town Council	Secretary to CEO		info@rundutown.org mkanga@rundutown.org	
Mr Kennedy Chigumira Ms Christine Sanzila	Roads Authority of Namibia	Regional Representative		chigumirak@ra.org.na sanzilac@ra.org.na	
Mr Percy W. Misika Ms Lizzy Matys (Secretary)	Ministry of Agriculture, Water and Land Reform Private Bag 13184 Windhoek	Executive Director	061 208 7649	ED@mawf.gov.na	
Ms Esther Kaapanda Ms Esther Johannes (Secretary)	Ministry of Works and Transport Private Bag 13341 Windhoek	Executive Director	061 208 8822	Esther.Johannes@mwt.gov.na	
Mr Benetus Nangombe Ms Dorothea (Secretary)	Ministry of Health and Social Services	Executive Director		PA.ED@mhss.gov.na ED.Office@mhss.gov.na	
Ms.Timea Ngwira		Regional Director	081-127 0249 066-265507	Timea.ngwira@mhss.gov.na rmt@iway.na	
Ms Sanet Steenkamp	Ministry of Education, Arts and Culture	Executive Director			
Mr. Fanuel Kapapero		Regional Director	066 2589111	sjuvensia61@gmail.com	
Ms Nadia Haihambo	Namibia Power Corporation (Proprietary) Limited P.O. Box 2864 Windhoek	Head Environmental Officer	061 205 2350	nadia.haihambo@nampower.com.na	

7.3 Issues and concern register

No.	ISSUE	RAISED BY	RESPONSE PROVIDED	PROVIDED BY
1	I would like to give some background, the Kavango Regional Council submitted a list with roads to the RA in 2014. The DR3448 upgrade was requested for 10km, why was it reduced to 5km?	Mr Mutamba	Due to budget constraints only certain roads and certain lengths are being upgraded now but we are trying to get the most out of that as we can and the roads that carry the most traffic will be done first. The road that you are talking about could probably be extended in the future.	Mr Clinton Payne
2	I am not convinced by the response about the budget, because you budget according to what you plan. *(DR3448 – 5km instead of 10km)*			
3	John Mutorwa street should have been 7.3km and not 1.2km, this is the longest street in Rundu. It is important to note that one of the main streets in Rundu was not included, the majority of the people are there and a lot of economic activity is taking place along this road. This road should form part of the project. I would recommend that the project be revised to include that road.		We as the Engineers get told by the Roads Authority which roads need to be upgraded, but I suggest that you take it up with the Roads Authority through Christina at the Regional Roads Authority Office.	
4	Are service ducts included? It should be incorporated in the BoQ. For example, the water pipes at the University are exposed. Examples along the Zambezi highway where pipes are exposed.		There is provision for ducts for services that cross the road in the bill.	

No.	ISSUE	RAISED BY	RESPONSE PROVIDED	PROVIDED BY
5			These are all very valid points, and these issues were raised with the CEO of the RA Mr Conrad Lutombi, but it is also good that we raise these points again. Through our discussion with Mr Lutombi we gave a lot of examples of roads in rural areas that have been upgraded such as the road from Katima Mulilo to Sibbinda but here we are struggling, we have raised these issues.	Honourable Mbangu
6	Economically speaking the road from Unam to Kayengona has been complained about for a long time. This road should be made a priority, this is where a lot of people have been relocated 30years ago. Today are still planning using budget constraints and are failing to build a road from the main road to Kaisosi. We as businesspeople are mobilising resources as private individuals. From a business perspective there is development taking place and a lot of people are going there. Can the road from the main road be constructed to the settlement of Kaisosi.	Mr Wakudumo	We take note and are working on that. We are aware that the road will take heavier traffic and that it gets flooded and will include it in the increased specification for this road.	Mr Clinton Payne
7	The road to the border has it been concluded, is it permanent border post now or will it be changed? The current road is being flooded. We were told here by Stubenrauch that the road to Kayengona will be the one going to the border post. That road to the current border post will be costly if it is only temporary.			
8	LVS – trucks will damage these roads. Some of our new roads cannot take 5ton trucks. Especially going to the border, it will be a waste of money because they will used big transport trucks going to Angola.			

No.	ISSUE	RAISED BY	RESPONSE PROVIDED	PROVIDED BY
9	Thank you for the opportunity. Our cars are not in good condition, because the roads are in bad condition. I am impressed by the way this project is begin done and by this event that is taking place. We are happy with the project even if only a few roads that were marked, but we all know everything has a beginning and if we see a little thing that our leaders have struggled with and we've come to a point were a few roads will be built it is very good from a socio-economic perspective. You see local transport and taxis transporting people from the villages (Kayengona, uVhung-Vhung) to town, you must see the condition in which these cars are, but perhaps now we can offer better services to the people. My main concern is with the contractors, on previous projects there was no consultation and no provision was made for parking spots next to the road (e.g. Secondary School to Magistrates Court) and now taxis cannot stop next to the road to drop off or pick up passengers instead they stop in the middle of the road disturbing traffic and being issued with fines, although this is an urban issue in the example mentioned, I would like to request the consultants/contractors to consider including designated parking areas along the roads. Thank you.	Mr Kennedy Andreas (Chairperson for Public of Transport in Kavango East)	We will make provision for parking areas at certain intersections.	Mr Clinton Payne
10	I have great appreciation for being here and getting this opportunity. This is an observation; demarcation markers have been moved into people's plots along the road and the community has not been informed. We wanted to know, are people going to be compensated? I know that some of the buildings that will be affected. What can we explain to the community? Where will the bypass go? Is there provision for bus stops for the people?	Mr Sep Katjiwana	Thank you very much. We take note. The road reserve is set, very often people often encroach on the road reserve. There is a process ongoing between the Roads Authority, the Councillors Office's and affected parties, you can take it up with them. We will provide bus stops/parking areas at key and critical areas along the roads.	Mr Clinton Payne

No.	ISSUE	RAISED BY	RESPONSE PROVIDED	PROVIDED BY
	Additionally, we would like to ask the Councillors, while construction is ongoing, is it possible to request some gravel roads to be constructed into informal areas, there are not many roads in this area?			
11	What we want is development in the area. Is the scope of the project final or can it be amended based on development taking place? As Mr Wakudumo mentioned earlier the road to Calai is not suitable at the moment. Is there any way to rather take that portion and construct the road to Sauyemwa for example? Is that something that can be discussed with the business community? We understand and know where the movement of people and the economic activities is.	Geraldus (NCCI)		
12	What about waste management and will trees be cut down? Where will this be discarded, or will they be left next to the road? Where will any waste tar be disposed? On the rehabilitation, often at the end of a project people say they don't have funding to rehabilitate borrow pits, then these fill up with water and children drown. Has provision been made for borrow pit rehabilitation?	Community Member	Trees will be set aside and either spoiled or allowed for people to cut them up to use the wood. The bitumen is dumped in designated areas safely. The borrow pits will have to be rehabilitated, the Roads Authority will not allow any unsafe borrow pits anywhere, it is a requirement.	Mr Clinton Payne
13	What is the road construction sequence? Is it according to what you have displayed during the presentation? What is the budget for this project?	Fransiska Kupembona (KERC Senior PR)	Priority is the road to Kayengona and then the others will follow. There is a difference between the budget and money available, but the budget is capped at approximately N$30million.	Mr Clinton Payne

No.	ISSUE	RAISED BY	RESPONSE PROVIDED	PROVIDED BY
14	Will construction start be for the environmental clearance certficate is obtained?	Fransiska Kupembona (KERC Senior PR)	The EC must be obtained before construction starts. As mentioned earlier, the order displayed is not the order in which construction will take place, the road to Kayengona will be priority. With regards the environmental aspect, I will be on site every 3 months to ensure that the EMP is enforced as required by law. That is my responsibility and I give you my word that the borrow pits will look much better than they do now. I witnessed two accidents where children drowned in the Eenhana area and that is totally unacceptable. With regards to bitumen – it is a very stable product, aesthetically it is a problem and animals can get stuck in it, but thankfully it is not tar and it is stable can be disposed very safely and very easily. The hazard is very small.	Rian du Toit
15			We are aware of all the requests with regards to new roads and extended roads, but unfortunately it falls outside the scope of this project. We see it all over, people want roads, and we understand it. Unfortunately, it costs money to construct roads, and this is always our constraint, but there are channels, the RA representative Mr Kennedy Chigumira will be moving to Rundu, he is a very pleasant person to work with, please go talk to him. This meeting today was not the last thing from our side, it was to engage the community and to hear what they have to say and to inform them about the project.	Rian du Toit
I&AP Forms Submitted				
16	We want development in our community. Some people might be affected – plots and houses may be destroyed. We want the Kaisosi road to be constructed, it was the first road in the colonial time why would Kaisosi be left out?	Maria Nashamba		
17	I am very concerned about my location Kaisosi. How can you jump Kaisosi which is closer to town and jump to Kayengona and do the Kalayi road. My idea is you are supposed to do the Kaisosi road and then Kalayi.	Anneli Tolili		

No.	ISSUE	RAISED BY	RESPONSE PROVIDED	PROVIDED BY
18	Roads in Rundu be provided with service ducts since culverts are expensive for applications such as water pipeline crossings. DR3448 kilometer reduction be relocated to John Mutorwa street up to T10/1 Kasote. Drainage systems to be done professionally well to reduce impacts.	T.K. Mutaba		
19	The project must put Rundu in good condition.	Sengumbe John		
20	I consider myself and interested party because of the development coming towards the community and progress will be made. Affected in a good way if no corruption will be done and construction will be peaceful. Kindly requesting that at least people living closely to any construction road must get employment to reduce unemployment.	Florinda Shashinda		
21	We live close to the road they are planning to upgrade; noise and air pollution will be an effect. Planned electricity lines and sewage and water pipes. We need to be recruited since we stay close to the road.	Sette Christian		

No.	ISSUE	RAISED BY	RESPONSE PROVIDED	PROVIDED BY
22	The road between Namibia and Angola. Border is not final, the road will affect the long term development. Sauyemwa – Mungalipi tar road to be priority. Shift money from John Mutorwa road and tar the road to Kasote to Nkurenkuru road.	Faustus Wakudumo		
23	The road to Kalayi should change and consider to build/construct the road to Kaisosi. It will improve business and social welfare for the people.	John Luseke		
24	Land were people plant is next to the road. The owner of the land must get compensation. Kaisosi Road.	Mukuve Sikongo		
25	Community members rely on a good road system as the basis to access jobs, health care, education and social connections. This project is a crucial element in the development of our community. The planned operations will not affect anyone but will enhance the development of all areas: Greensheme, Dairy Farm, etc We whole heartedly welcome these operations.	Honourable Councillor Paulus Mbangu		
26	We need better roads in the area. RA need to engage communities whenever or before planning.	Thikusho Raphael		

No.	ISSUE	RAISED BY	RESPONSE PROVIDED	PROVIDED BY
27	Main stakeholders of our business are located along the road. The road will improve access to market, and we source produce along the road. The Calai road gets waterlogged during the rainy season. Do you have provision for a bridge like structure to address this?	Loraine Mbereshu		
28	My house is split in the middle. My concern is loss of land and road accidents.	Ndara Marcelline		
29	We need more development in our town.	Ignatius Kahuyu		
30	Employer must employ local subcontractors and community labour	Markus Makaza		
31	One of the roads proposed is near my workplace. Access to better road and transport will save time.	Regina Kandjimi Dr Miranda H (UNAM)		

No.	ISSUE	RAISED BY	RESPONSE PROVIDED	PROVIDED BY
32	Upgrading the roads in Rundu: 1. Safer travel, 2. more consistent and reliable transport, 3. Improved amenity for local community. Those that are staying close to the road will be asked to vacate to give space for upgrading roads.	Litot Michael		

8. ENVIRONMENTAL IMPACTS

The Scoping Report will look at the Construction and Operational Phases of the project to determine the significance of the expected environmental impacts associated with the upgrade of the existing gravel road to a low volume seal. The following activities are generally associated with the construction of a road. These activities are kept in mind during the environmental impact assessment process.

- **Camp site establishment**
  - Demarcation of the camp site
  - Protection of vegetation and natural features
  - Protection of fauna
  - Protection of cultural historical aspects
  - Topsoil conservation
  - De-bushing and de-stumping
  - Structures construction: bulk water, sewage, electricity and accommodation
  - Parking and other required demarcated areas

- **Site infrastructure**
  - Batching plants
  - Crusher plants
  - Sand washing plants
  - Nurseries
  - Construction of service, haul and access roads
  - Gates and fences

- **Site management**
  - Rubble and waste rock
  - Solid waste
  - Liquid waste
  - Hazardous waste
  - Pollution control
  - Implements and equipment
  - Blasting
  - Air quality
  - Noise control
  - Fire control
  - Health and Safety

- **Earthworks**
  - Prospecting boreholes and test pits
  - Excavations and trenches
  - Cut and fill
  - Shaping and trimming
  - Construction of pavement layers

- **Stockpiles, storage and handling**
  - Topsoil
  - Spoil
  - Vehicles and equipment
  - Fuel

- Hazardous substances

8.1 Environmental Impact Assessment Process Methodology

One of the objectives of this study is to identify and quantify the potential positive and negative impacts which the proposed road will have on the receiving biophysical and socio-economic environment. A checklist is designed to help users identify the likely significant environmental effects of proposed projects during scoping. It is to be used in conjunction with the Checklist of Criteria for Evaluating the Significance of Impacts. There are two stages:

- **First**, identifying the potential impacts of projects;

- **Second** selecting those which are likely to be significant and therefore require most attention in the assessment.

A useful way of identifying the potential impacts of a project is to identify all the activities or sources of impact that could arise from construction, operation or decommissioning of the project, and to consider these alongside the characteristics of the project environment that could be affected, to identify where there could be interactions between them. The two parts of the Scoping Checklist have been developed to assist in this process.

Start with the checklist of questions set out below. Complete Column 2 by answering:

- yes - if the activity is likely to occur during implementation of the project;
- no - if it is not expected to occur;
- ? - if it is uncertain at this stage whether it will occur or not.

For each activity for which the answer in Column 2 is "Yes" or "?", refer to the second part of the Scoping Checklist which lists characteristics of the project environment which could be affected, and identify any which could be affected by that activity. Information will be used about the surrounding environment in order to complete this stage. Note the characteristics of the project environment that could be affected, and the nature of the potential effects in Column 4.

Finally, use Checklist of Criteria for Evaluating the Significance of Impacts to help complete Column 5. This will identify those impacts which are expected to be significant. The questions are designed so that a "yes" answer will point towards a significant impact. It is often difficult to decide what is or is not significant but a useful simple check is to ask whether the effect is one that is of sufficient importance that it ought to be considered and have an influence on the development consent decision.

Table 3: Environmental Scoping Checklist

PART 1 OF THE SCOPING CHECKLIST: QUESTIONS ON PROJECT CHARACTERISTICS				
1. Will construction, operation or decommissioning of the Project involve actions that will cause physical changes in the locality (topography, land use, changes in water bodies, etc)?				
No.	**Questions to be considered in the Scoping**	**Yes/No/?**	**Which Characteristics of the Project Environment could be affected and how?**	**Is the effect likely to be significant? Why?**
1.1	Permanent or temporary change in land use, land cover or topography including increases in intensity of land use?	Yes	The borrow pit operations will temporarily alter the land use, land cover and, for the borrow pits - topography of the area.	Low significance because of possible mitigation measures that can be implemented. Rehabilitation of borrow pits normally return the land use to its original state.
1.2	Clearance of existing land, vegetation and buildings?	Yes	Clearing of vegetation for construction operations influencing the vegetation, soils and topography. It is very unlikely that any buildings will be cleared.	Clearing of vegetation is always regarded as significant when it comes to road construction. However, mitigation measures can reduce the significance of the impact.
1.3	Creation of new land uses?	No	The new road will be built mostly on the existing alignment.	Low significance.
1.4	Pre-construction investigators eg boreholes, soil testing?	Yes	Materials testing are required to obtain construction materials which will affect the topography and vegetation cover.	The areas of disturbance are very small. Holes are dug to excavate samples and closed after sampling. Low significance.
1.5	Construction works?	Yes	During construction aspects such as social, soil, surface water, vegetation and geology can be affected.	The existing alignment will be used therefore there are no significant impacts anticipated.
1.6	Demolition works?	Yes	The removal of old culverts.	Very low or significance due to the low pollution risk and can be successfully mitigated.
1.7	Temporary sites used for construction works or housing of construction workers?	Yes	A temporary construction camp will probably be constructed where water and waste management are the most important activities that need to be mitigated.	Should these activities not be managed, it might have a negative impact on the soils, water and health and safety of the contractor workers. No permanent changes to the area are predicted.
1.8	Above ground buildings, structures or earthworks including linear structures cut and fill or excavations?	Yes	The above ground earthworks will be regarded as primarily for the road construction.	It is anticipated that the impact will not be significant due to the flat topography of the existing road.

1.9	Underground works including mining or tunnelling?	No		
1.10	Reclamation works?	No		
1.11	Dredging?	No		
1.12	Coastal structures egg seawalls, piers?	No		
1.13	Offshore structures?	No		
1.14	Production and manufacturing processes?	No		
1.15	Facilities for storage of goods or materials?	Yes	The storage of machines, gravel, crushed stone, sand, cement, bitumen and bulk fuel.	The storage of goods or materials can be mitigated therefore limiting the significance.
1.16	Facilities for treatment or disposal of solid wastes or liquid effluents?	Yes	Sewage effluent from the camp sites need to be treated or disposed.	This might have a significant negative impact on Health / Safety as well as soils and water if not managed effectively.
1.17	Facilities for long term housing of operational workers?	No		
1.18	New road, rail or sea traffic during construction or operation?	Yes	Construction of a bypass and traffic increase due to movement of construction vehicles.	Medium significance due to the popular tourist route.
1.19	New road, rail, air, water borne or other transport infrastructure including new or altered routes and stations, ports, airports etc?	No	The current alignment will be followed.	The significance will be low due to the width and current alignment to be used.
1.20	Closure or diversion of existing transport routes or infrastructure leading to changes in traffic movements?	Yes	There will be temporary bypasses constructed.	The significance is likely to be low due to the temporary nature of the activities.
1.21	New or diverted transmission lines or pipelines?	No		
1.22	Impoundment, damming, culverts, realignment or other changes to the hydrology of watercourses or aquifers?	Yes	New culverts will be constructed.	Should proper planning and consultation with local communities be applied, negative impacts on the hydrology of the rivers and tributaries should be limited therefore reducing the significance. Construction of new culverts will have a positive impact.

1.23	Stream crossings?	No		
1.24	Abstraction or transfers of water from ground or surface waters?	Yes	Water will be extracted for the construction phase of the project.	Water from boreholes will be used and the significance will be medium due to the scarcity of available water.
1.25	Changes in water bodies or the land surface affecting drainage or run-off?	Yes	The existing road impact on the drainage patterns.	The significance will be Low positive due to improved capacity of the drainage structures
1.26	Transport of personnel or materials for construction, operation or commissioning?	Yes	Surface characteristics.	No significance.
1.27	Long term dismantling or decommissioning or restoration works?	No		
1.28	Ongoing activity during decommissioning which could have an impact on the environment?	No		
1.29	Influx of people to an area is either temporarily or permanently?	?	It is uncertain what the impact might have on the migration of people in the region.	The significance is estimated to be low, but possible.
1.30	Introduction of alien species?	No		
1.31	Loss of native species or genetic diversity?	No		
1.32	Any other actions?	No		
2. Will construction or operation of the Project use natural resources such as land, water, materials or energy, especially any resources which are non-renewable or in short supply?				
No.	**Questions to be considered in Scoping**	**Yes/No/?**	**Which Characteristics of the Project Environment could be affected and how?**	**Is the effect likely to be significant? Why?**
2.1	Land especially undeveloped or agricultural land?	Yes	During construction, geological materials will be used for the filling and layer works. Soils will be affected and might therefore impact negatively on the agricultural / communal land.	The significance is low. The existing alignment will be followed with some small adjustments.

2.2	Water?	Yes	Water is used for domestic and construction purposes.	The available water will be used for construction. The significance will be medium due to the low volumes available.

3. Will the Project involve use, storage, transport, handling or production of substances or materials which could be harmful to human health or the environment or raise concerns about actual or perceived risks to human health?

No.	Questions to be considered in Scoping	Yes/No/?	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
3.1	Will the project involve use of substances or materials which are hazardous or toxic to human health or the environment (flora, fauna, and water supplies)?	Yes	Hydrocarbons always pose a risk to the environment.	Water and soils are normally affected by spillages of hydrocarbons. The significance might be medium without mitigation measures.
3.2	Will the project result in changes in occurrence of disease or affect disease vectors (eg insect or water borne diseases)?	No		
3.3	Will the project affect the welfare of people eg by changing living conditions?	?	There is always a risk of altered quality with regards to living conditions of the adjacent people and the environment. This is with reference to HIV/AIDS.	The significance of such risks can be mitigated, ensuring low impact significance.
3.4	Are there especially vulnerable groups of people who could be affected by the project eg hospital patients, the elderly?	Yes	The proposed route will impact positively on the vulnerable groups due to improved mobility network and increased safety.	Positive medium significance.
3.5	Any other causes?	No		

4. Will the Project produce solid wastes during construction or operation or decommissioning?

No.	Questions to be considered in Scoping	Yes/No/?	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
4.1	Spoil, overburden or mine wastes?	Yes	Spoils will be generated during construction affecting the aesthetics appeal of the area.	No. This activity can be mitigated very successfully. Low significance.
4.2	Municipal waste (household and or commercial wastes)?	Yes	Domestic waste will be generated.	Medium significance should it not be properly managed.

4.3	Hazardous or toxic wastes (including radioactive wastes)?	Yes	Used oils and old batteries.	Mitigation measures are important to manage the handling and disposal of used oils and old batteries.
4.4	Other industrial process wastes?	No		
4.5	Surplus product?	No		
4.6	Sewage sludge or other sludge from effluent treatment?	Yes	Sewage is produced at the construction camp.	Sewage is always a very important impact that might have a negative impact on soils, water and health and safety.
4.7	Construction or demolition wastes?	No		
4.8	Redundant machinery or equipment?	No		
4.9	Contaminated soils or other material?	Yes	There is always a possibility that contamination of soils can occur during operation due to spillage of oils / diesel.	No. The scale of contamination is very limited and can be mitigated.
4.10	Agricultural wastes?	No		
4.11	Any other solid wastes?	No		
5. Will the Project release pollutants or any hazardous, toxic or noxious substances to air?				
No.	**Questions to be considered in Scoping**	**Yes/No/?**	**Which Characteristics of the Project Environment could be affected and how?**	**Is the effect likely to be significant? Why?**
5.1	Emissions from combustion of fossil fuels from stationary or mobile sources?	Yes	Gasses such as Nox and Sox are deposited in the air from the machines.	The quantity of these gasses will not impact significant negatively on the environment.
5.2	Emissions from production processes?	No		
5.3	Emissions from materials handling including storage or transport?	No		
5.4	Emissions from construction activities including plant and equipment?	Yes	Construction vehicles, power plants and the crusher plant will generate gaseous emissions.	The impacts might be low significant and can mitigated.
5.5	Dust or odours from handling of materials including construction materials, sewage and waste?	Yes	Dust from material handling and transport.	Yes. Dust might be a nuisance to receptors.

5.6	Emissions from incineration of waste?	No		
5.7	Emissions from burning of waste in open air (eg slash material, construction debris)?	Yes	Burning of waste will negatively affect the air quality.	The significance will be low negative.
5.8	Emissions from any other sources?	No		

6. Will the Project cause noise and vibration or release of light, heat energy or electromagnetic radiation?

No.	Questions to be considered in Scoping	Yes/No/?	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
6.1	From operation of equipment eg engines, ventilation plant, crushers?	Yes	The mining of borrow pits and production equipment produces noise and vibrations	No. The ambient receptors are minimal. The Health and Safety within close distance must be noted.
6.2	From industrial or similar processes?	No		
6.3	From construction or demolition?	Yes	Construction will produce noise.	Low significance due to low receptor density.
6.4	From blasting or piling?	No		
6.5	From construction or operational traffic?	Yes	The hauling trucks will produce noise and vibration.	No. The impact is very local and is not significant.
6.6	From lighting or cooling systems?	No		
6.7	From sources of electromagnetic radiation (consider effects on nearby sensitive equipment as well as people)?	No		
6.8	From any other sources?	No		

7. Will the Project lead to risks of contamination of land or water from releases of pollutants on the ground water into sewers, surface water, groundwater, coastal waters or the sea?				
No.	**Questions to be considered in Scoping**	**Yes/No/?**	**Which Characteristics of the Project Environment could be affected and how?**	**Is the effect likely to be significant? Why?**
7.1	From handling, storage, use or spillage of hazardous or toxic materials?	Yes	Spillage of oils and other hydrocarbon may affect the water and soil.	With no mitigation the significance might be medium.
7.2	From discharge of sewage or other effluents (whether treated or untreated) to water or the land?	Yes	Effluent at the construction site might impact negatively on the surface water, soils and health and safety of the workforce.	Should the sewage not be properly managed the negative impact might be significant.
7.3	By deposition of pollutants emitted to air, onto the land or into water?	Yes	Gasses from the machines.	No. The volumes of emissions are limited.
7.4	From any other sources?	No		
7.5	Is there a risk of long term build-up of pollutants in the environment from these sources?	No		

8. Will there be any risk of accidents during construction or operation of the Project which could affect human health or the environment?				
No.	**Questions to be considered in Scoping**	**Yes/No/?**	**Which Characteristics of the Project Environment could be affected and how?**	**Is the effect likely to be significant? Why?**
8.1	From explosions, spillages, fires etc from storage, handling, use or production of hazardous or toxic substances?	No		
8.2	From events beyond the limits of normal environmental protection eg failure of pollution controls systems?	No		
8.3	From any other causes?	Yes	The health and safety of road users might be affected by construction vehicles.	Might be significant if proper road traffic management is not conducted during the construction phase.
8.4	Could the project be affected by natural disasters causing environmental damage (eg floods, earthquakes, landslip, *etc)?*	No		

9. Will the Project result in social changes, for example, in demography, traditional lifestyles, employment?				
No.	**Questions to be considered in Scoping**	**Yes/No/?**	**Which Characteristics of the Project Environment could be affected and how?**	**Is the effect likely to be significant? Why?**
9.1	Changes in population size, age, structure, social groups etc?	No		
9.2	By resettlement of people or demolition of homes or communities or community facilities eg schools, hospitals, social facilities?	No		
9.3	Through in-migration of new residents or creation of new communities?	?	In-migration of people might be a possibility.	The significance is unsure.
9.4	By placing increased demands on local facilities or services eg housing, education, health?	No		
9.5	By creating jobs during construction or operation or causing the loss of jobs with effects on unemployment and the economy?	Yes	The local and larger community will benefit from the construction phase.	The significance might be positive medium due job creation and increased mobility.
9.6	Any other causes?	No		

10. Are there any other factors which should be considered such as consequential development which could lead to environmental effects or the potential for cumulative impacts with other existing or planned activities in the locality?				
No.	**Questions to be considered in Scoping**	**Yes/No/?**	**Which Characteristics of the Project Environment could be affected and how?**	**Is the effect likely to be significant? Why?**
10.1	Will the project lead to pressure for consequential development which could have significant impact on the environment eg more housing, new roads, new supporting industries or utilities, etc?	Yes	New road will be constructed which will benefit the communities. Lower vehicle operating costs will contribute to the National economy.	The significance will be positive but the extent uncertain.
10.2	Will the project lead to development of supporting facilities, ancillary development or development stimulated by the project which could have impact on the environment eg: • supporting infrastructure • housing development • extractive industries • supply industries • other?	Yes	Stimulating the tourism industry.	This might be a significant positive impact on the town of Rundu.

10.3	Will the project lead to after-use of the site which could have an impact on the environment?	No		
10.4	Will the project set a precedent for later developments?	?	Unlikely	
10.5	Will the project have cumulative effects due to proximity to other existing or planned projects with similar effects?	No		

PART TWO OF THE SCOPING CHECKLIST: CHARACTERISTICS OF THE PROJECT ENVIRONMENT

For each project characteristic identified in Part 1 consider whether any of the following environmental components could be affected.

Question - Are there features of the local environment on or around the Project location which could be affected by the Project?

- There are no areas protected by law in the vicinity of the proposed site.
- There is a low possibility of features of high historic or cultural importance.
- Surface drainage patterns will be addressed through proper engineering design.

Question - Is the Project in a location where it is likely to be highly visible to many people?
This road is not used extensively; therefore, the location is not highly visible to many people.

Question - Is the Project located in a previously undeveloped area where there will be loss of Greenfield land?
No, the road will be constructed on the existing alignment.

Question - Are there existing land uses on or around the Project location which could be affected by the Project?

There will be three borrow pits that will be opened but will not affect the existing land uses significantly.

Question - Are there any plans for future land uses on or around the location which could be affected by the Project?
No. The area will probably remain agricultural / communal.

Question - Are there any areas on or around the location which are densely populated or built-up, which could be affected by the Project?

Yes, most of the roads are situated within the town of Rundu.

Question - Are there any areas on or around the location which are occupied by sensitive land uses which could be affected by the Project?

No.

Question - Are there any areas on or around the location which contain important, high quality or scarce resources which could be affected by the Project?

There are no scarce resources found around the project that could be influenced by the construction or operational phases of these projects, but there are some flora species (trees) that are protected by Forestry Legislation.

Question - Are there any areas on or around the location of the Project which are already subject to pollution or environmental damage e.g. where existing legal environmental standards are exceeded, which could be affected by the project?

No. The area has been subject to agricultural and urban activities.

Question - Is the Project location susceptible to earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions e.g. temperature inversions, fogs, severe winds, which could cause the project to present environmental problems?

No. The area is very flat with limited floods, erosion or impacts on the climatic conditions.

Question - Is the Project likely to affect the physical condition of any environmental media?

No, the proposed project will be constructed on the existing alignment.

Question - Are releases from the Project likely to have effects on the quality of any environmental media?

- The air quality might deteriorate due to dust generation during construction but will improve during operation.
- The quality of soil might deteriorate without proper management.
- Acidification of soils or waters will probably not occur.
- There will be some noise generated during the construction and operational phase of the road but will be limited to the site. Noise levels will decrease during the operation phase of the project.
- The air quality will increase should the road be upgraded to bitumen standard.

Question - Is the Project likely to affect the availability or scarcity of any resources either locally or globally?

- The project will use fossil fuels in liquid (diesel).
- Water will be used for dust suppression, construction and domestic use.
- The quarrying activity extracts geological materials on a non-renewable basis.

Question - Is the Project likely to affect human or community health or welfare?

- The quality of air will be affected due to construction activities and hauling. Even though this is the case, human health might not be problematic.
- No mortality or morbidity might be experienced by human receptors.
- The project will have a positive impact on the social economic welfare of the region.

In the Scoping checklist, the significance must be indicated. To facilitate this procedure, the following questions were considered during the rating:

Questions that were considered to determine significance:

1. Will there be a large change in environmental conditions?
2. Will new features be out-of-scale with the existing environment?
3. Will the effect be unusual in the area or particularly complex?
4. Will the effect extend over a large area?
5. Will there be any potential for trans frontier impact?
6. Will many people be affected?
7. Will many receptors of other types (fauna and flora, businesses, facilities) be affected?
8. Will valuable or scarce features or resources be affected?
9. Is there a risk that environmental standards will be breached?
10. Is there a risk that protected sites, areas, features will be affected?
11. Is there a high probability of the effect occurring?
12. Will the effect continue for a long time?
13. Will the effect be permanent rather than temporary?
14. Will the impact be continuous rather than intermittent?
15. If it is intermittent will it be frequent rather than rare?
16. Will the impact be irreversible?
17. Will it be difficult to avoid, or reduce or repair or compensate for the effect?

8.2 Environmental Impact Assessment Summary

The following environmental impacts were identified during the assessment procedure as described above. The impacts are classified as either positive or negative and the significance ratings as low, medium and high.

Activity	Aspect / Impact	Positive / Negative	Significance
Land use / topography, and land use cover.	The quarry operations will permanently alter the land use, land cover and, for the borrow pits - topography of the area.	Negative	Low
	Areas zoned as undetermined or agricultural will change to transport (land use).	Negative	Low
Clearance of existing land, vegetation and buildings.	Clearing of vegetation for construction operations influencing the vegetation, soils and topography.	Negative	Low
Creation of new land uses.	The existing land use will change from agricultural to road (land use).	Negative	Low
Pre-construction investigators egg boreholes, soil testing?	Materials testing are required to obtain construction materials which will affect the topography and vegetation cover.	Negative	Low
Construction activities.	During construction aspects such as social, soil, surface water, vegetation and geology can be affected.	Negative	Low
Demolition works?	The possible removal of old culverts and bridges.	Negative	Low
Temporary sites used for construction works or housing of construction workers?	A temporary construction camp will probably be constructed where water and waste management are the most important activities that need to be mitigated.	Negative	Low
Above ground buildings, structures or earthworks including linear structures cut and fill or excavations.	The above ground earthworks will be regarded as primarily for the road construction. Permanent changes will take place (land use).	Negative	Low
Facilities for storage of goods or materials.	Pollution of soils and water.	Negative	Medium
Facilities for treatment or disposal of solid wastes or liquid effluents?	Sewage effluent from the camp sites need to be treated or disposed.	Negative	Medium
New road, rail or sea traffic during construction or operation?	Limited traffic increase due to movement of construction vehicles.	Negative	Low
Closure or diversion of existing transport routes or infrastructure leading to changes in traffic movements?	There will be temporary bypasses constructed.	Negative	Low

Impoundment, damming, culverts, realignment or other changes to the hydrology of watercourses or aquifers.	Water balancing is an important aspect to be evaluated. Improving the culverts on the road will be positive.	Positive	Low
Abstraction or transfers of water from ground or surface waters?	Water will be extracted for the construction phase of the project.	Negative	Medium
Changes in water bodies or the land surface affecting drainage or run-off?	Drainage will improve due to the increased structures (culverts) and widening of the bridges.	Positive	Medium
Influx of people to an area in either temporarily or permanently	Migration of people might impact on the socio-economic structure of the area. The risk of HIV/AIDS may increase due to the influx.	Negative	Low
Loss of native species or genetic diversity?	Surface disturbances always impact on the biodiversity of an area.	Negative	Low
Resources such as land and water.	Very limited agricultural land will be affected due to the construction of the road.	Negative	Low
	Water is used for domestic and construction purposes.	Negative	Medium
Will the project involve use of substances or materials which are hazardous or toxic to human health or the environment (flora, fauna, and water supplies)?	Hydrocarbons always pose a risk to the environment.	Negative	Medium
Will the project affect the welfare of people eg by changing living conditions?	The proposed route will impact positively on the vulnerable groups due to improved mobility network.	Positive	Medium
Spoil, overburden or mine wastes?	Spoils will be generated during construction affecting the aesthetics appeal of the area.	Negative	Low
Pollution on site (domestic and construction waste).	Pollution of the natural environment (soil and water).	Negative	Medium
Sewage sludge or other sludge from effluent treatment?	Sewage is produced at the construction camp.	Negative	Medium
Contaminated soils or other material.	There is always a possibility that contamination of soils can occur during operation due to spillage of oils / diesel.	Negative	Low
Emissions from combustion of fossil fuels from stationary or mobile sources.	Gasses such as Nox and Sox are deposited in the air from the machines.	Negative	Low
	The movement from vehicles will generate noise, dust and gaseous emissions.	Negative	Low
Will the project cause noise and vibration from blasting?	Blasting might be conducted which will impact on existing water sources, houses and other receptors in the area.	Negative	Low

Emissions from burning of waste in open air (eg slash material, construction debris)?	Burning of waste will negatively affect the air quality.	Negative	Low
By creating jobs during construction or operation or causing the loss of jobs with effects on unemployment and the economy?	The local community will benefit from the construction phase through additional employment opportunities.	Positive	Medium
Will the project lead to pressure for consequential development which could have significant impact on the environment eg more housing, new roads, new supporting industries or utilities, etc?	New road will be constructed which will benefit the communities by improving access to schools, clinics, tourism places and churches.	Positive	Medium
	New road will be constructed which will benefit the communities. Lower vehicle operating costs will contribute to the National economy.	Positive	Medium
Will the project lead to development	Access improvement to facilities in the region will benefit the local and regional communities.	Positive	Medium

9. ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

The Minimum Requirements for the Environmental and Social Management Programme (ESMP) are attached in this document. It sets out as the minimum generic standards applicable to such a project. A detailed site specific ESMP should be drafted before commencement of the Construction phase.

The ESMP is intended to bridge the gap between the Environmental Assessment (EA) and the implementation of the project, particularly with regards to implementing the mitigation measures recommended in the Environmental Assessment (EA). Monitoring, auditing and taking corrective actions during implementation are crucial interventions to successfully implement the ESMP.

The ESMP detail actions to ensure compliance with regulatory bodies and further ensures that environmental performance is increased through mitigation measures on impacts as they occur.

ESMP implementation is a cyclical process that converts mitigation measures into actions and through cyclical monitoring, auditing, review and corrective action, ensures conformance with stated ESMP aims and objectives. Through monitoring and auditing, feedback for continual improvement in environmental performance must be provided and corrective action taken to ensure that the ESMP remains effective.

9.1 ESMP Administration

The ESMP must be part of the Tender and Contract documentation. Copies of the ESMP shall be kept at the site office and will be distributed to all senior contract personnel. All senior personnel shall be required to familiarize themselves with the contents of this document.

9.2 Roles and Responsibilities

The implementation of the ESMP requires the involvement of several stakeholders, each fulfilling a different but vital role to ensure sound environmental management during each phase.

Engineer and Engineer's Representative (ER)

The Engineer shall delegate powers to the Engineer's Representative (ER) in respect of implementation of the ESMP. The Engineer has the responsibility to ensure that the Employer's responsibilities are executed in compliance with relevant legislation and the ESMP. The Engineer also has the responsibility to approve the Contractor's appointment of the Environmental Control Officer (ECO).

Any on-site decisions regarding environmental management are ultimately the responsibility of the Engineer. The ER shall have the following responsibilities in terms of the implementation of this ESMP:

- Controlling that the necessary environmental authorizations and permits have been obtained by the Contractor.
- Advising the Contractor and the Contractors ECO in finding environmentally responsible solutions to problems.
- Taking appropriate action if the specifications are not followed.

- Ordering the removal of person(s) and/or equipment not complying with the ESMP specifications.
- Issuing penalties for non-compliance to mitigation measures pertained in the ESMP.
- Advising on the removal of person(s) and/or equipment not complying with the specifications.
- Auditing the implementation of the ESMP and compliance with authorization on a monthly basis.
- Undertaking a continual review of the ESMP and recommending additions and/or changes to the document after completion of the contract.

Environmental Control Officer (ECO)

The Environmental Control Officer (ECO) will be a competent person from the staff of Contractor to implement the on-site environmental management of this ESMP by the Contractor. The ECO shall be on site daily and the ECO's duties will include the following:

- Regular site inspections of all construction areas with regard to compliance with the ESMP.
- Evaluate and verifying adherence to the ESMP.
- Advising the Contractor in finding environmentally responsible solutions to ESMP non-compliance activities.
- Organise and facilitate environmental awareness training for all new personnel coming onto site.

9.3 Environmental Awareness Training

Before any work is commenced on the Site, the Contractor shall ensure that adequate environmental awareness training of senior site personnel takes place and that all construction workers receive an induction presentation on the importance and implications of the ESMP. The Contractor shall liaise with the Engineer during establishment phase to fix a date and venue for the training and to agree on the training content.

The Contractor shall provide a suitable venue and ensure that the specified employees attend the course. The Contractor shall ensure that all attendees sign an attendance register and shall provide the ER with a copy of the attendance register. The presentation shall be conducted, as far as is possible, in the employees' language of choice.

As a minimum, training should include:

- Explanation of the importance of complying with the ESMP.
- Discussion of the potential environmental impacts of construction activities.
- The benefits of improved personal performance.

- Employees' roles and responsibilities, including emergency preparedness.
- Explanation of the mitigation measures that must be implemented when carrying out their activities.
- Explanation of the specifics of this ESMP and its specification (no-go areas, etc.)
- Explanation of the management structure of individuals responsible for matters pertaining to the ESMP.
- The contractor shall keep records of all environmental training sessions, including names, dates and the information presented.

9.4 Public Participation

An on-going process of public participation shall be maintained during construction to ensure the continued involvement of interested and affected parties (I&APs) in a meaningful way. Public meetings to discuss progress and any construction issues that may arise shall be held at least every two months and more regularly if deemed necessary by the ER. These meetings shall be arranged by the ECO and shall be facilitated by the Contractor. The Contractor shall present a progress report at each public meeting. All I&APs that participated in or were informed during the EIA shall be invited to each of the public meetings.

9.5 Environmental Auditing

Environmental auditing should be conducted at least once every three months during the construction phase. These environmental audits will be conducted by an environmental consultant with the required experience and sub-contracted by the Engineer.

Benefits derived from the audit process include:

- identification of environmental risks observed during a site visit;
- development or improvement of the environmental management system;
- suggested improvements to the ESMP;
- inspecting the required permits and licenses;
- increase in staff awareness with regards to the environment and the ESMP;
- inspect environmental incident reports, environmental monitoring and recording documentation. These documents will be compiled and filed by the ECO.

Commonly, the audit of a site will cover all environmental management procedures, operational activities & systems, and environmental issues.

9.6 Documentation, Record keeping and Reporting Procedures

The Contractor shall develop and implement an effective document handling and retrieval system for all ESMP documentation on site. This will ensure that there is adequate ESMP documentation control and will facilitate easy document access and evaluation. ESMP documentation should include (but are not limited to):

- ESMP implementation activity specifications;
- training records;
- site inspection reports;
- monitoring reports; and
- auditing reports.

The Environmental Control Officer is responsible for ensuring that the registration and updating of all relevant ESMP documentation is carried out. The ECO is responsible for ensuring that the latest versions of documents are used to conduct tasks which may impact the project environment.

9.7 Environmental Mitigation Measures / Environmental Management Plan

The following mitigation measures are sufficient to reduce or avoid negative impacts associated with the construction of a road. It is based on the activities mentioned in this report that will occur during the construction phase of the project:

COMPONENT	OBJECTIVE	MANAGEMENT MEASURES	RESPONSIBILITY/ PARTNERSHIPS
9.7.1 MANAGEMENT AND MONITORING	To ensure that the provisions of the ESMP are implemented during construction.	The independent environmental consultant shall monitor that all aspects of the ESMP are implemented during the construction phase of the project. The environmental consultant shall conduct site inspections and attend meetings. The site meeting agenda shall make provision for reporting on non-compliance issues related to the ESMP.	Environmental consultant together with the ECO.
9.7.2 COMMUNICATION AND STAKEHOLDER CONSULTATION	To ensure that all stakeholders are adequately informed throughout construction and that there is effective communication with and feedback to the consultant and client.	a. The Contractor shall appoint an ECO from the construction team to take responsibility for the implementation for all provisions of this ESMP and to liaise between the contractor, community, and the Engineer. The ECO must be appointed at least 14 days after the site-handover. b. The Contractor shall at every site meeting report on the status of the implementation of all provisions of the ESMP. c. The contractor shall implement the environmental awareness training as stipulated in Section 10.3 above. d. The Contractor shall liaise with the social and environmental consultants regarding all issues related to community consultation and negotiation as soon as possible after construction commences.	Contractor/ Environmental Consultant to monitor.
9.7.3 HEALTH AND SAFETY	To ensure health and safety of workers and the public at all times during construction	a. The Contractor shall submit a strategy to ensure the least possible disruption to traffic and potential safety hazards during construction. b. The strategy should include a schedule of work indicating when and how road crossings (construction at existing intersections) will be made. The schedule should be updated and distributed to all stakeholders. c. The Contractor shall also liaise with the Traffic Authorities in this regard.	Contractor will ensure the mitigation measures are enforced at his own expense. The ECO will monitor.

COMPONENT	OBJECTIVE	MANAGEMENT MEASURES	RESPONSIBILITY/ PARTNERSHIPS
		d. Proper traffic and safety warning signs must be placed at the construction site as required by the Road Traffic and Transport Act, 1999 (Act 22 of 1999) and the Road Traffic and Transport Regulations promulgated in terms of the Act. e. The Contractor must adhere to the regulations pertaining to Health and Safety, with special reference to the provision of protective clothing. Failing to issue workers with the proper PPE, the Contract may be suspended until corrective actions were taken. f. Dust protection masks shall be provided to task workers if they complain about dust. g. Surface dust will be contained by wetting dry surfaces periodically with a water bowser, sprinkler system or any suitable method. This applies to all individual construction areas on site and to the sections of the road affected. h. Potable water shall be available to workers to avoid dehydration. This water shall be of acceptable standards to avoid any illness. At least 3 litres of drinking water per person per day shall be made available during construction. i. The contractor shall enforce all relevant Health and Safety Regulations for the specific activities associated with this project. j. The Contractor shall implement a HIV/AIDS awareness programme as part of Health and Safety. k. Blasting may only be conducted by a qualified person and all laws and regulations will be enforced before and during blasting. Blasting shall be done in accordance with Clause 1222 of the Standard Specification of the Roads Authority and the Explosives Act 26 of 1956 (Regulations promulgated as amended by the Explosive Amendment Act, 1993).	
9.7.4 CONSERVATION OF THE NATURAL AND HISTORICAL ENVIRONMENT	To minimise damage to soil, vegetation and historical resources during the construction phase. This includes soil crusting, soil	a. The main contractor's camp shall not be constructed closer than 500m from any river, stream of tributary from any river / stream. b. At the outset of construction (or during construction as may be applicable), the ECO and the contractor shall visit all proposed borrow-pits, haul roads, access roads, camp sites, and other areas to be disturbed outside the road reserve.	Contractor will ensure the mitigation measures are enforced at his own expense.

COMPONENT	OBJECTIVE	MANAGEMENT MEASURES	RESPONSIBILITY/ PARTNERSHIPS
	erosion and unnecessary vegetation destruction. Management of water (domestic and construction).	Areas to be disturbed shall be clearly demarcated, and no land outside these areas shall be disturbed or used for construction activities. c. Detailed instructions and final arrangements for protection of sensitive areas, keeping of topsoil and rehabilitation of disturbed areas shall be made, in line with the guidelines in this document. The ECO shall be consulted before any new areas are disturbed which have not yet been visited. d. No off-road driving shall be allowed, except on the agreed haul and access roads. e. Vegetation shall be cleared within the road reserve as necessary for the construction of the road, while trees with a trunk diameter exceeding 500 mm (1 meter above ground) shall be left intact or as directed by the Engineer. The areas on either side of the road reserve may not be cleared of vegetation, unless permission is given to do so for detours or access roads. This measure is subject to the Roads Authority's specifications with regards to the road reserve. f. A prescribed penalty will be deducted from the Contractor's payment certificate for every mature tree removed without approval. g. No trees may be felled or live wood in the project area removed by any member of the construction team, including sub-contractors. Contravention of this arrangement is liable for a prescribed penalty. h. A prescribed penalty will be deducted from the Contractor's payment certificate if it is shown that trees and/or branches have been broken down wilfully and unnecessarily, or that any plants have been collected illegally, by any of the staff or sub- contractors. i. Trees that need to be trimmed should be done so with the right equipment and aesthetical acceptable. The use of a saw fit for its purpose is obligatory and the branches of trees will not be broken off by the use of other machinery. j. Where topsoil is available, this must be stockpiled separately in 1,00 m high piles and this used to cover the damaged areas outside the road reserve such as access roads to borrow pits, and clearing and grubbing areas. k. Where compaction has taken place in disturbed areas, these areas must be ripped and covered with topsoil separately kept for this purpose. This aspect	The ECO will monitor.

COMPONENT	OBJECTIVE	MANAGEMENT MEASURES	RESPONSIBILITY/ PARTNERSHIPS
		shall be provided for in the schedule of quantities – covered by the Standard Specification of the contract. l. Poaching or collecting of wild animals is prohibited. m. The killing of any animal (reptile, bird or mammal) is prohibited, unless for legal hunting purposes. n. A prescribed penalty will be deducted from the contractor's payment certificate if it is shown that any of his staff or sub-contractors are involved in trapping, hunting or any kind of collecting of wild animals in the vicinity of the work sites. Such activities shall be reported to Nampol for prosecution. o. Pipelines for the pumping of construction water shall as far possibly run within the road reserve and along existing tracks and other roads. p. Water will not be allowed to be wasted. This includes water required for construction and domestic purposes.	
9.7.5 BORROW PIT MANAGEMENT AND REHABILITATION	To ensure proper soil management (combat soil erosion and promote biological activities). Preserve and manage natural vegetation. To ensure health and safety around the borrow pits (decommissioning phase). To stimulate ecological processes after decommissioning (to stimulate	a. The removal of material at borrow-pit sites shall be focused where the least significant vegetation exists. If material is only available around significant mature trees (more than 500 cm circumference – 1 meter above ground), clusters of trees should be preserved while suitable material is excavated around them. A 3-meter buffer must be conserved around the cluster of mature trees. The ER shall visit all proposed borrow-pit areas and indicate where and how material may be removed, before works commence. A **cluster constitutes 5 or more trees in proximity (within 20m radius).** b. The Contractor shall use safety tape to mark these tree clusters as to avoid confusion or miss-understandings. c. The Engineer shall draft a plan for each proposed borrow pit. Similarly, the Contractor shall draft such a plan for each borrow-pit proposed by him. This plan must indicate the required resources; borrow pit boundaries and sensitive areas that may not be mined (indication of the mature trees). d. The borrow pit areas will be clearly marked by using brightly painted markers. These markers will demarcate the area where materials might be removed and stored.	Contractor will ensure the mitigation measures are enforced at his own expense. The ECO will monitor.

COMPONENT	OBJECTIVE	MANAGEMENT MEASURES	RESPONSIBILITY/ PARTNERSHIPS
	vegetation and other biological activities). To establish borrow pits which is aesthetically pleasing after decommissioning.	e. All borrow-pits must be rehabilitated. f. The contractor shall liaise with the applicable local headmen OR residents regarding whether their borrow-pits shall be shaped as water reservoirs during rehabilitation. g. At those borrow-pits not to be shaped as reservoirs, topsoil (the top layer containing organic material) shall be stockpiled separately and the stockpile maintained for use at the end of the contract to rehabilitate the borrow pits. h. The topsoil shall be marked as to inform the machine operators that the material is top soil and should be left alone for rehabilitation purposes. i. The borrow pits shall be rehabilitated by trimming the sides to a slope not steeper than 20° (1:5) and evenly spreading the topsoil over the slopes to allow for the growth of new vegetation. j. All spoil material at the borrow pits shall be neatly shaped and covered with overburden (if available). k. Access to borrow pits shall be controlled (using gates or manned positions). l. The borrow pit floor shall be levelled evenly as part of rehabilitation. m. A Borrow Pit Rehabilitation Plan shall be compiled by the Contractor indicating the rehabilitation schedule (time-frames) for the various borrow pits to be rehabilitated. n. After the borrow pit has been rehabilitated, the Rehabilitation Checklist will be completed and signed by the relevant parties.	
9.7.6 WASTE AND POLLUTION MANAGEMENT	To avoid contribution to potential surface and groundwater pollution. To avoid contribution to potential soil pollution.	a. General waste generated during construction will be disposed of on a regular basis at an approved waste disposal site. A temporary waste site may be demarcated for temporary storage of waste, but this area will be identified and clearly marked. b. The temporary domestic waste site will be fenced off with access control to the area. c. Adequate separate containers for hazardous and domestic waste will be provided on site and at the construction camp.	Contractor will ensure the mitigation measures are enforced at his own expense. The ECO will monitor.

COMPONENT	OBJECTIVE	MANAGEMENT MEASURES	RESPONSIBILITY/ PARTNERSHIPS
	To ensure that sound waste management practices are adhered to during construction.	d. The workforce will be sensitised to dispose waste in a responsible manner and not to litter. e. Waste bins will be placed in and around the construction site to facilitate proper waste management.	
		f. No hazardous or domestic waste may remain on site after completion of the project. g. The construction of properly designed sewage facilities is required at the camp site. The sewage should either be removed on a regular basis and dumped at an approved sewage facility or where it is not possible, the sewage should be managed to such an extent that is does not cause any negative effects on the bio-physical or social environments. Proof of disposal shall be kept as record in the ECO file for environmental performance assessment purposes. No free-flowing sewage is acceptable. h. Toilet facilities will be available in the following ratio: 2 toilets for every 20 females and one toilet for every 20 males. The toilets should be such that these can be transported for various site selections and to be emptied at an approved sewage site. No person should have to walk more than 1km for the use of a toilet. i. A demarcated vehicle service area will be provided. This area will have an impermeable floor, oil trap and dedicated wash bay area. All used water will first run through the oil trap before the effluent is allowed to exit. The oil trap will be cleaned on a regular basis to ensure its efficiency. j. Servicing of vehicles is only permitted in the demarcated vehicle service area, except for large immobile vehicles which may be repaired on site, on condition that oils and lubricants are prevented from spilling through the use of drip trays or other suitable containers. k. Drip trays will be available for all vehicles that are intended to be used during construction. These trays will be placed underneath each vehicle while the vehicles are parked. The drip trays will be cleaned every morning and the spillage handled as hazardous waste.	

COMPONENT	OBJECTIVE	MANAGEMENT MEASURES	RESPONSIBILITY/ PARTNERSHIPS
		l. Machines operating during the day that show signs of excess leaking (verified by ECO or Engineer) should be withdrawn from the task and repaired by the contractor. m. Accidental spills will be cleaned immediately. The contaminated soil will be suitably disposed of in a container suitable for hazardous waste. n. Used oil / lubricants, and other hazardous materials shall be stored in separate containers (metal or plastic). These containers shall be stored in an area with an impermeable floor and bunded walls. The materials and used oils / lubricants shall be disposed of at an approved waste disposal site or for collection by an oil recycling company such as WESCO Salvage (this company collects 3significant quantities of oil from central locations throughout the country). o. Fuel tanks on site will be properly bunded. The volume of the bunded area will be enough to hold 1.5 times the capacity of the storage tanks. The floor of the bunded area will be impermeable (welded plastic sheets, concrete or clay) and the sides high enough to achieve the 1.5 times holding capacity. There will be a valve installed in the bunded area to allow rainwater drainage. p. Foam fire extinguishers will be near fuel kept on site. There will be trained personnel to handle this equipment. At least two extinguishers will be placed at every fuel storage area. q. Bitumen batching areas will make use of drip trays to prevent unnecessary spillage of any bitumen products. Cleaning of spray nozzles should be done on the bypass (if it is gravel) or any other section of the road that is in use. This serves as a dust suppressor. r. Bitumen cleaning pits shall be constructed that are effectively lined with an impermeable material. No leaks / seepage is allowed from these bitumen pits. s. Should large quantities of bitumen need to be disposed, it can be done at a borrow pit with the following mitigation measures: (i) the borrow pit shall not be closer than 100m from any river, drainage tributary or stream ; (ii) The aquifer level shall not be closer than 10 meters to the borrow pit floor; (iii) a plastic lining will be laid underneath the proposed dumping area and the spoiled bitumen shall be covered with the same plastic lining as to prevent leaching; (iv) at least three meters of material shall be placed on top of the plastic lining.	

COMPONENT	OBJECTIVE	MANAGEMENT MEASURES	RESPONSIBILITY/ PARTNERSHIPS
9.7.7 REHABILITATION OF CONSTRUCTION SITE, SERVITUDES AND CLEARED AREAS (WHICH INCLUDES STOCKPILES)	To rehabilitate the site office, work sites, servitude areas, tracks and other areas disturbed during construction as close to their original state as reasonably possible.	a. All bunded areas, equipment, waste, temporary structures, stockpiles etc. must be removed from the camp and construction sites. b. All disturbed areas shall be reshaped to their original contours; as close as possible to the natural conditions before construction commenced, including the road reserve, detours, construction camps, and temporary access routes. c. All cuttings must be shaped with a slope to provide a natural appearance, without having to destroy significant vegetation on top of the slope (this applies to big trees as mentioned in the ESMP only).	Contractor will ensure the mitigation measures are enforced at his own expense. The ECO will monitor.

9.8 Non-Compliance

A) Procedures

The Contractor shall comply with the environmental specifications and requirements on an on-going basis and any failure on his part to do so will entitle the ER to impose a penalty. In the event of non-compliance, the following recommended process shall be followed:

- The Engineer shall issue a notice of non-compliance to the Contractor through the ECO, stating the nature and magnitude of the contravention.
- The Contractor shall act to correct the non-conformance within 24 hours of receipt of the notice, or within a period that may be specified within the notice.
- The Contractor, through the ECO, shall provide the ER with a written statement describing the actions to be taken to discontinue the non-conformance, the actions taken to mitigate its effects and the expected results of the actions.
- In the case of the Contractor failing to remedy the situation within the predetermined time frame, the Engineer shall impose a monetary penalty based on the conditions of contract.
- In the case of non-compliance giving rise to physical environmental damage or destruction, the Engineer shall be entitled to undertake or to cause to be undertaken such remedial works as may be required to make good such damage and to recover from the Contractor the full costs incurred in doing so.
- In the event of a dispute, difference of opinion, etc. between any parties with regard to or arising out of interpretation of the conditions of the ESMP, disagreement regarding the implementation or method of implementation of conditions of the ESMP, etc. any party shall be entitled to require that the issue be referred to specialists for determination.
- The Engineer shall at all times have the right to stop work and/or certain activities on site in the case of non-compliance or failure to implement remedial measures.

B) Offences and Penalties

Where the Contractor inflicts non-repairable damage upon the environment or fails to comply with any of the environmental Specifications, he shall be liable to pay a penalty fine over and above any other contractual consequence.

The Contractor is deemed NOT to have complied with this specification if:

- within the boundaries of the site, site extensions and haul/access roads there is evidence of contravention of these environmental Specification;
- environmental damage due to negligence;
- the Contractor fails to comply with corrective or other instructions issued by the Engineer within a specific time;

Penalties for the activities detailed below, will be imposed by the Engineer on the Contractor and/or his Subcontractors:

a.	Actions leading to erosion	A penalty equivalent in value to the cost of rehabilitation plus 20%
b.	Oil spills or hydrocarbon spillages	A penalty equivalent in value to the cost of clean-up operation plus an N$ 5000 fine.
c.	Damage to indigenous vegetation	A penalty equivalent in value to the cost of restoration plus N$ 5 000
d.	Damage to sensitive environments	A penalty equivalent in value to the cost of restoration plus N$ 5 000
e.	Damage to cultural sites	A penalty to a maximum of N$100 000 shall be paid for any damage to any cultural/ historical sites
f.	Damage to trees	A penalty to a maximum of N$15 000 shall be paid for each tree removed without prior permission, or a maximum of N$5 000 for damage to any tree, which is to be retained on site.
g.	Damage to natural fauna	A penalty to a maximum of N$5 000 for damages to any natural occurring animals.
h.	Any persons, vehicles, plant, or thing related to the Contractors operations within the designated boundaries of a “no-go” area	N$4 000
j.	Litter on site	N$5 000
k.	Deliberate lighting of illegal fires on site	N$ 5 000
l.	Any person, vehicle, item of plant, or anything related to the Contractors operations causing a public nuisance.	N$1 000
m.	Constant leakages from the sewage system.	N$ 15 000

Penalties may be issued per incident at the discretion of the Engineer. The Engineer will inform the Contractor of the contravention and the amount of the fine, and will deduct the amount from monies due under the Contract.

For each subsequent similar offence the fine may, at the discretion of the Engineer, be doubled in value to a maximum value of N$ 30, 000.

Payment of any fines in terms of the contract shall not absolve the offender from being liable from prosecution in terms of any law. In the case of a dispute in terms of this section, the Engineer shall determine as to what constitutes a transgression in terms of these Environmental Mitigation Measures and the Non-compliance section of this document.

10. CONCLUSION AND RECOMMENDATIONS

The environmental investigation to determine the sensitivity of the impacts associated with this project was done according the legal requirements of the Environmental Management Act No. 7 of 2007 and associated Regulations of 2012.

Even though there are some negative impacts are associated with upgrading to low volume seal standard, the significance of these impacts are considered to be low to medium and these negative impacts could further be reduced or avoided by proper implementation of the Environmental and Social Management Plan.

This project does not pose significant environmental risks because the existing alignment will be followed. Waste management, pollution prevention and control as well as effective borrow pit rehabilitation will prevent any significant long-term negative effects associated with this project during construction.

The upgrade to low volume seal standard will bring about the most positive impacts associated with the operational phase of the project. These include reducing the vehicle operating cost for the road user, improved road user safety.

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APPENDIX A

BASIC RULES OF CONDUCT

The following list represents the basic Do's and Don'ts towards environmental awareness, which all participants in this project must consider whilst carrying out their tasks. These are not exhaustive and serve as a quick reference aid.

NOTE: ALL new site personnel must attend an environmental awareness presentation. Please inform your foreman or manager if you have not attended such a presentation or contact the ECO.

DO:

- Use the toilet facilities provided;
- Report dirty or full facilities;
- Clear your work areas of litter and building rubbish at the end of each day;
- Use the waste bins provided and ensure that litter will not blow away;
- Report all fuel or oil spills immediately & stop the spill continuing;
- Dispose of cigarettes and matches carefully (littering is an offence);
- Confine work and storage of equipment to within the immediate work area;
- Use all safety equipment and comply with all safety procedures;
- Prevent contamination or pollution of soil, streams and water channels;
- Ensure a working fire extinguisher is immediately at hand if any "hot work" is undertaken e.g. Welding, grinding, gas cutting etc;
- Report any injury of an animal;
- Drive on designated routes only;
- Prevent excessive dust and noise.

DO NOT:

- Remove or damage vegetation without direct instruction;
- Make any fires;
- Injure, trap, feed or harm any animals - this includes birds, frogs, snakes, lizards etc;
- Enter any fenced off or marked area.
- Allow cement or cement bags to blow around;
- Speed or drive recklessly;
- Allow waste, litter, oils or foreign materials on the ground or in any steams;
- Swim in the dam;
- Litter or leave food laying around;
- Waste water;
- Use vehicles that are leaking oil or any hydrocarbon substance.

APPENDIX B

REHABILITATION CHECKLIST FOR THE FINALIZATION OF BORROW PITS

Borrow Pit Name and Number: _____ Date: _____

It is essential that a borrow pit meet the requirements set out in the approved EMP before closure. After the requirements are met, the borrow pit can be signed off and regarded as rehabilitated. After the borrow pit has been signed off, the contractor or any other party may not be allowed to engage in any activities in or around the signed off borrow pit. This includes, but is not limited to activities such as further excavations, dumping of overburden or spoils, sloping, etc.

Criteria for rehabilitation according to the EMP:

Item Number	Description	Comments	Complied
			Yes / No
1	Gradient of the borrow pit walls are less than 18 degrees (1:3).		
2	The walls is covered with overburden/top soil with a thickness of more than150 mm.		
3	The floor of the borrow pit is level and no material is found within the pit.		
4	The compacted areas are ripped to a minimum depth of 300mm.		
5	No man made topographical high or low points are found in or around the borrow pit. These might include berm walls, excavation holes, stock piles, etc.		
6	The site is clear of any illegal dumping of foreign or other materials in and around the borrow pit.		
7	All invasive vegetation has been removed from site.		

When the answer to **all of the above** statements are “Yes" then the R.E. or authorized person can sign off the borrow pit and regard it as closed.

Signed off by: Environmentalist: _____

_____ _____

Residing Engineer / Authorized Person Land- Owner

APPENDIX C

CURRICULUM VITAE OF COMPILER

APPENDIX D

MINUTES OF THE PUBLIC PARTICIPATION MEETING

The Upgrade of Roads to Low Volume Seal in and around the Town of Rundu in the Kavango East Region: John Mutorwa Street in Rundu, DR3402 (from TR8/4 intersection to Rundu University Campus), DR3448 (from TR8/4 intersection for 5 km) and DR3402 (from Rundu University Campus for 1.4km towards Kayengona Junction)

Meeting Minutes

Type of Meeting: **Public Consultation Meeting**
Venue: **Kavango East Regional Council Auditorium**
Date: **13 October 2021**
Time: **10h15 – 11h45**

Agenda

1. Prayer – Honourable Councillor Paulus Mbangu
2. Welcome – Honourable Councillor Vicky Kauma
3. Project Team Introduction – Rian du Toit
4. Environmental Impact Assessment (EIA) – Rian du Toit (Translator: Benjamin Makayi)
5. Project Scope – Clinton Payne (Translator: Benjamin Makayi)
6. Q&A
7. Conclusion – Rian du Toit and Honourable Councillor Paulus Mbangu
8. Prayer – Honourable Councillor Paulus Mbangu

1. Prayer — Honourable Councillor Paulus Mbangu, Rundu Rural Constituency

2. Welcome — Honourable Councillor Vicky Kauma, Rundu Urban Constituency

Welcome to the Engineers, Headmen and Headwomen from the areas where the projects will take place and representatives from institutions and Honourable Mbangu. Welcome to the Rundu Urban Constituency in which most of the projects will take place. We are very happy about these projects. People have been complaining about the roads in Rundu for a long time and it presents a lot of economic issues. Our gravel roads are not even gravel roads, but at least today we can start to talk about tar roads and roads in good condition on which the cars can drive. Some of the tar roads here are new and already in a poor condition, that means the consultations, the engineering and the construction are not done to the right standards. You have sent us good consultants, please keep doing good things for us and build us roads up to standard so that the government's money does not get wasted. You are also bringing employment to us, some people here will be employed, and

households will benefit, lets work together as a community, engineers and contractors and let's unite for these projects when they start so that we don't jeopardise these projects. Strikes and negotiations stop projects, I don't want to see abandoned projects or that the timeframes of these projects are abused. Today marks the day that everyone comes together for the start of this project, let's come together at the end of this project to celebrate it's completion.

3. Project Team Introduction — Rian du Toit, Consulting Team

- Enviro Management Consultants (EMC) – Mr Rian du Toit & Ms Maike Prickett
- Element Consulting Engineers – Mr Clinton Payne
- Roads Authority – Ms Christine Sanzila
- Appointed Contractors – Road Heart

4. EIA Presentation *(see attached presentation document)* — Rian du Toit, Consulting Team

- *What is an EIA? It is a practical implementation to prevent negative and improve positive impacts.*
- *Environment defined - bio-physical (water, soil, plants, etc), social and legislation*
- *Impacts – what we do and how that changes the environment (cause and affect)*
    - *Building a road: what is needed to build the road (layer works, materials), how does that change the environment, during operation what are the positive or negative effects of the road on the environment*
- *Rules and Regulations/Legislation –* ***Constitution of Namibia, Environmental Management Act No.7 (2007)***
- *What is the ultimate objective of an EIA? To maintain sustainability - a balance between development and conservation*
- *Normal stakeholder concerns of road development projects:*
    - *Land – taken and no benefit to stakeholder*
    - *Water / Materials*
    - *Consider the gain of such a project: economic gain*
    - *The cost-benefit analysis for this road has been done and that is why this project is going ahead*
    - *Trees in the road reserve will be removed only if they are a safety concern, if not, they will be left*
- *The objective of EMC is to:*
    - *Consult the public, stakeholders that know the area need to give their input (comments and concerns)*
    - *Consider the negative and positive impacts*
    - *Present and Submit EIA and application for Environmental Clearance Certificate (ECC) application to the Ministry of Environment, Forestry and Tourism (MEFT) – they grant or reject ECC for this project*
    - *If ECC is granted, it is valid for 3 years, once this has been issued the project can commence. We need to avoid/minismise/reduce the negative impacts and enhance the positive impacts.*
      We want to avoid – spillage, pollution (surface water/soil, etc), bad waste management practices, etc.
    - *Borrow pits: they must be left by the contractor in an acceptable condition.*
- *One the one hand we the EIA to look at the impacts that this project will have and on the other hand we have the Environmental Management Plan which will become part of the contractor's contract which addresses the negative impacts to ensure that the*

negative impacts are avoided or mitigated by the contractor. This is a requirement by the MEFT that the EMP included before they approve a project.

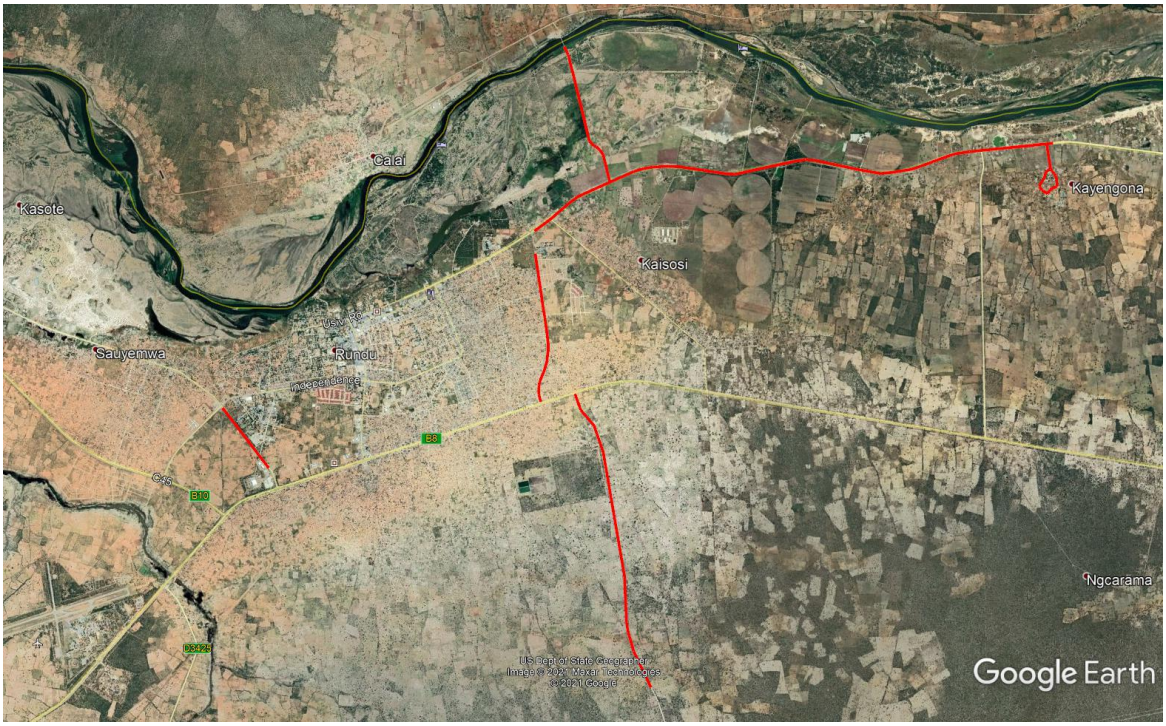
- *You are welcome to raise your comments and concerns.*

5. Project Scope – Technical Presentation — Clinton Payne, Consulting Team

Thank you for the opportunity to be of service to your community. I am representing Element Consulting Engineers and I am now a resident of Rundu and here for the duration of the project. We were appointed by the Roads Authority to conduct this design and to ensure that the road is going to be built to durable standards and that during the duration of the contract the contractor is achieving his objectives and building the roads to standard and not taking any shortcuts and that the EMP is being adhered to. Any problems that are created, I am here to address them on behalf of the Roads Authority. Our contractor is in the room as well, they have already been appointed and they are currently in the field doing their own surveys of the roads that they will be upgrading.
The road is called a Low Volume Seal and the reason for this is, that it is not a big national road. The requirement for a national road is to be able to carry heavy and a lot of traffic like the road going to Zambia. You are not getting a lower standard road, but a road that is designed specifically for the class of traffic that this road is receiving, mostly your traffic on these roads is small vehicle traffic with some delivery trucks, but it is not a massive main road and that is why it is called a Low Volume Road.
The estimated length of roads that we will be upgrading will be approximately 22km:

- *John Mutorwa Street –1.2km from the 4way with Sauyemwa to B8*
- DR3402 - *B8 to Rundu University Campus*
- DR3402 - *University Campus where tar road ends to beyond the Kayengona Junction*
- *Road from DR3402 to Calai Border Post*
- *Access Roads at Kayengona up to the Constituency Office, Traditional Offices, School, ect*
- *Access Road to uVhungu-Vhung School*
- DR3448 - *5km from B8 towards Mbambi*

Project roads highlighted in red.



- *Outline of construction procedure:*
    - *The order in which we will start is being finalised at the moment in terms of priority, but what has been confirmed is that we will start with the road to Kayengona because this a priority for the community and is closest to the borrow pit and this will also reduce operational costs for the contractor.*
    - *We will primarily be using the existing borrow pit along DR3402 just before the uVhung-Vhungu Dairy Project and extending on that and not necessarily using new ones at this point.*
    - *All existing borrow pits will be rehabilitated to safe standards, we are aware that the existing borrow pits are not finished properly.*
    - *Accesses and bypasses will be provided for vehicle traffic along the road during construction so that traffic is not being interrupted.*
    - *The existing road will be used as far as possible, but we will have to get the road out of the low points and provide proper drainage structures. I would like to urge you to indicate any drainage issues that you are aware of with your Constituency office so that they can communicate that to us. We will pick this up during our survey as well, but we would appreciate your input.*
    - *Contract duration of the first phase is 10.5 months starting from when the document is signed between the contractor and the Roads Authority, the second phase will also be 10.5 months and will commence once phase 1 has been completed and funds are available.*
    - *The contractor will employ local people. We have had discussions with the Councillors and their offices, and the contractor will run their employment requirements through their Constituency Offices and the balance of the spilt for employment between the two constituencies will be relative to the length of road in the respective constituency.*

6. Questions & Answers

Q1. Mr Mutamba:

a. I would like to give some background, the Kavango Regional Council submitted a list with roads to the RA in 2014. The DR3448 upgrade was requested for 10km, why was it reduced to 5km?

Response (Clinton Payne): Due to budget constraints only certain roads and certain lengths are being upgraded now but we are trying to get the most out of that as we can and the roads that carry the most traffic will be done first. The road that you are talking about could probably be extended in the future.

b. I am not convinced by the response about the budget, because you budget according to what you plan. *(DR3448 – 5km instead of 10km)*

c. John Mutorwa street should have been 7.3km and not 1.2km, this is the longest street in Rundu. It is important to note that one of the main streets in Rundu was not included, the majority of the people are there and a lot of economic activity is taking place along this road. This road should form part of the project. I would recommend that the project be revised to include that road.

Response (Clinton Payne): We as the Engineers get told by the Roads Authority which roads need to be upgraded, but I suggest that you take it up with the Roads Authority through Christina at the Regional Roads Authority Office.

d. Are service ducts included? It should be incorporated in the BoQ. For example, the water pipes at the University are exposed. Examples along the Zambezi highway where pipes are exposed.

Response (Clinton Payne): There is provision for ducts for services that cross the road in the bill.

Response (Honourable Mbangu): These are all very valid points, and these issues were raised with the CEO of the RA Mr Conrad Lutombi, but it is also good that we raise these points again. Through our discussion with Mr Lutombi we gave a lot of examples of roads in rural areas that have been upgraded such as the road from Katima Mulilo to Sibbinda but here we are struggling, we have raised these issues.

Q2. Mr Wakudumo:

a. Economically speaking the road from Unam to Kayengona has been complained about for a long time. This road should be made a priority, this is where a lot of people have been relocated 30years ago. Today are still planning using budget constraints and are failing to build a road from the main road to Kaisosi. We as businesspeople are mobilising resources as private individuals. From a business perspective there is development taking place and a lot of people are going there. Can the road from the main road be constructed to the settlement of Kaisosi.

b. The road to the border has it been concluded, is it permanent border post now or will it be changed? The current road is being flooded. We were told here by Stubenrauch that the road to Kayengona will be the one going to the border post. That road to the current border post will be costly if it is only temporary.

c. LVS – trucks will damage these roads. Some of our new roads cannot take 5ton trucks. Especially going to the border, it will be a waste of money because they will used big transport trucks going to Angola.

Response (Clinton Payne): We take note and are working on that. We are aware that the road will take heavier traffic and that it gets flooded and will include it in the increased specification for this road.

Q3. Mr Kennedy Andreas (Chairperson for Public of Transport in Kavango East):

Thank you for the opportunity. Our cars are not in good condition, because the roads are in bad condition. I am impressed by the way this project is begin done and by this event that is taking place. We are happy with the project even if only a few roads that were marked, but we all know everything has a beginning and if we see a little thing that our leaders have struggled with and we've come to a point were a few roads will be built it is very good from a socio-economic perspective.
You see local transport and taxis transporting people from the villages (Kayengona, uVhung-Vhung) to town, you must see the condition in which these cars are, but perhaps now we can offer better services to the people. My main concern is with the contractors, on previous projects there was no consultation and no provision was made for parking spots next to the road (e.g. Secondary School to Magistrates Court) and now taxis cannot stop next to the road to drop off or pick up passengers instead they stop in the middle of the road disturbing traffic and being issued with fines, although this is an urban issue in the example mentioned, I would like to request the consultants/contractors to consider including designated parking areas along the roads. Thank you.

Response (Clinton Payne): We will make provision for parking areas at certain intersections.

Q4. Mr Sep Katjiwana

I have great appreciation for being here and getting this opportunity.
This is an observation; demarcation markers have been moved into peoples plots along the road and the community has not been informed. We wanted to know, are people going to be compensated? I know that some of the buildings that will be affected. What can we explain to the community? Where will the bypass go? Is there provision for bus stops for the people? Additionally, we would like to ask the Councillors, while construction is ongoing, is it possible to request some gravel roads to be constructed into informal areas, there are not many roads in this area?

Response (Clinton Payne): Thank you very much. We take note. The road reserve is set, very often people often encroach on the road reserve. There is a process ongoing between the Roads Authority, the Councillors Office's and affected parties, you can take it up with them. We will provide bus stops/parking areas at key and critical areas along the roads.

Q5. Geraldus (NCCI)

What we want is development in the area. Is the scope of the project final or can it be amended based on development taking place? As Mr Wakudumo mentioned earlier the road to Calai is not suitable at the moment. Is there any way to rather take that portion and construct the road to Sauyemwa for example? Is that something that can be discussed with the business community? We understand and know where the movement of people and the economic activities is.

Response (Clinton Payne):

Q6. Community Member

What about waste management and will trees be cut down? Where will this be discarded, or will they be left next to the road? Where will any waste tar be disposed? On the rehabilitation, often at the end of a project people say they don't have funding to rehabilitate borrow pits, then these fill up with water and children drown. Has provision been made for borrow pit rehabilitation?

Response (Clinton Payne): Trees will be set aside and either spoiled or allowed for people to cut them up to use the wood. The bitumen is dumped in designated areas safely. The borrow

pits will have to be rehabilitated, the Roads Authority will not allow any unsafe borrow pits anywhere, it is a requirement.

Q7. Fransiska Kupembona (KERC Senior PR)

What is the road construction sequence? Is it according to what you have displayed during the presentation? What is the budget for this project?

Response (Clinton Payne): Priority is the road to Kayengona and then the others will follow. There is a difference between the budget and money available, but the budget is capped at approximately N$30million.

Will construction start be for the environmental clearance certficate is obtained?

Response (Rian du Toit): The EC must be obtained before construction starts. As mentioned earlier, the order displayed is not the order in which construction will take place, the road to Kayengona will be priority. With regards the environmental aspect, I will be on site every 3 months to ensure that the EMP is enforced as required by law. That is my responsibility and I give you my word that the borrow pits will look much better than they do now. I witnessed two accidents where children drowned in the Eenhana area and that is totally unacceptable. With regards to bitumen – it is a very stable product, aesthetically it is a problem and animals can get stuck in it, but thankfully it is not tar and it is stable can be disposed very safely and very easily. The hazard is very small.

7. Conclusion — Rian du Toit, Consulting Team

Ladies and Gentlemen, Honourable Councillors and the Translator thank you very much. We are aware of all the requests with regards to new roads and extended roads, but unfortunately it falls outside the scope of this project. We see it all over, people want roads, and we understand it. Unfortunately, it costs money to construct roads, and this is always our constraint, but there are channels, the RA representative Mr Kennedy Chigumira will be moving to Rundu, he is a very pleasant person to work with, please go talk to him. This meeting today was not the last thing from our side, it was to engage the community and to hear what they have to say and to inform them about the project.

Honourable Councillor Paulus Mbangu, Rundu Rural Constituency

Honourable Vicky Kauma, Consulting Team, Martha, Ms Chritine Sanzila, the contractor, Traditional Leaders, NCCI, VTC, representatives from Gender, Public Transport and all other attendees, thank you very much for coming. At least through this engagement we picked up a lot of things and it is important to continue to engage each other. Thank you for sacrificing your time to attend this meeting. Thank you.

8. Prayer — Honourable Councillor Paulus Mbangu, Rundu Rural Constituency

End of meeting 11:45

ATTENDANCE REGISTER

DATE: 13/10/21

VENUE: Kavango East Regional Council Auditorium

PROJECT: Upgrade of Roads to LVS in and around the Town of Rundu

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Ignatius Kahuuyu	—	0817388643	
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ATTENDANCE REGISTER

DATE: 13/10/2021

VENUE: Kavango East Regional Council Auditorium.

PROJECT: Upgrade of Roads to LVS in and around the Town of Rundu

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ENVIRO
ENSURING OUR TOMORROW

ELEMENT
Consulting Engineers
A FIFTH DIMENSION TO ENGINEERING

ROADS AUTHORITY

ATTENDANCE REGISTER

DATE: 13/10/21

VENUE: Kavango East Regional Council Additorium

PROJECT: Upgrade of Roads to LVS in and around the Town of Rundu.

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ATTENDANCE REGISTER

DATE: 13/10/2021

VENUE: Kavango East Regional Council Auditorium

PROJECT: Upgrade of Roads to LVS in and around the Town of Rundu

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ENVIRO ENSURING OUR TOMORROW

ELEMENT Consulting Engineers
A FIFTH DIMENSION TO ENGINEERING

ROADS AUTHORITY