

# ENVIRONMENTAL ASSESSMENT FOR THE CONSTRUCTION OF A TRUCK PORT IN KATIMA MULILO, ZAMBEZI REGION NAMIBIA



## FINAL ENVIRONMENTAL ASSESSMENT REPORT

JULY 2020



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## PROJECT DETAILS

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**TITLE:** Environmental Assessment for the proposed Truck Port  
in Katima Mulilo, Zambezi Region, Namibia

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**CLIENT:** WT FUEL CENTER

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## LIST OF ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
CRR	Comments and Response Report
dB	Decibels
DEAR	Draft Environmental Assessment Report
EA	Environmental Assessment
EAR	Environmental Assessment Report
ECC	Environmental Clearance Certificate
ECO	Environmental Control Officer
EIA	Environmental Impact Assessment
EMA	Environmental Management Act
EMP	Environmental Management Plan
FEAR	Final Environmental Assessment Report
GTZ	Gesellschaft für Technische Zusammenarbeit
HIV	Human Immunodeficiency Virus
I&AP	Interested and Affected Party
IUCN	International Union for Conservation of Nature
MEFT	Ministry of Environment Forestry and Tourism
MEFT: DEA	Ministry of Environment Forestry & Tourism: Department of Environmental Affairs
NPC	National Planning Commission
PPE	Personal Protective Equipment
PPP	Public Participation Process
RCC	Roads Contractor Company
SADC	Southern African Development Community
USAID	United States Agency for International Development

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# 1 INTRODUCTION

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*The purpose of this chapter is to describe the context of the EIA and the scope of work undertaken. It also outlines how this EIA complies with the requirements set by the legislative context of Namibia, as well as being guided by the principles of impact assessment best practice.*

## 1.1 PROJECT BACKGROUND

Katima Mulilo is a town situated in the far north-east of Namibia, within the Caprivi Strip and now in the Zambezi Region. It is the regional capital in the Zambezi. At the same time Katima Mulilo is a border town to Zambia and is connected by bridge with the town of Shesheke in Zambia. The town's riverine is dotted with scattered villages where farming, agriculture and fishing generates an income. Within the town is an open central square which hosts the commercial sector of Katima Mulilo. As with many towns in Namibia growth of the urban areas will take place and as such urban infill of previously underutilised spaces and areas are often seen as the ideal manner of integrating industrial and business townships together.

The Roads Contractor Company (RCC) has in agreement to lease out its existing, vacant and underutilised site to WT FUEL CENTER (proponent) with the intent of setting up a truck port. The site is located on Erf 546 in Katima Mulilo and it measures 8000m<sup>2</sup> in extent. The site is adjacent to the Roads Authority Weighbridge and a Shell Service Station within the industrial area of the town. On the site, there is existing underground diesel tanks that were previously utilised by RCC for their construction machinery over the years. Given the unknown status quo of these tanks, the proponent is therefore of the intention to install on site and make use of a Container Tank during the operational phase of the truck port. The existing underground tanks have a capacity of 82 000 Litres and the Container Tank will have a capacity of 64 000 Litres. The underground tanks will not be utilised for the time being- however, overtime the proponent will conduct a due diligence study in which a new management plan will be employed. No excavations will take place except that the proponent will however remove all dirt (including long grown grass or weed) which will make way for the development to take place.

In addition, the proponent wishes only to make use of part of the RCC site given that the rest of the site will be used to store RCC's building or construction rubble that was stored on site. There are already existing structures such as workshop building and the same building will be used by the proponent for cargo transportation mechanical maintenance services. The proposed truck port is ultimately intended to cater for the proponent's cargo transportation, however the public is welcome to make use of the much needed services that will be part of the truck port should the need arise.

The proposed area on which the truck port will be developed is currently vacant with no flora even though it is however surrounded by significant big trees. These trees will not be removed nor disturbed but they will be kept, maintained and integrated within the layout design of the proposed development.

The above activity will be discussed in more detail in Chapter 4. WT FUEL CENTER appointed Namibia Environmental Consultants to undertake the Environmental Assessment (EA) in order to obtain an Environmental Clearance Certificate (ECC) for the above activity in Katima

Mulilo. The competent authority is the Ministry of Environment Forestry and Tourism: Department of Environmental Affairs (MEFT: DEA).

The process will be undertaken in terms of the gazette Namibian Government Notice No. 30 Environmental Impact Assessment Regulations (herein referred to as EIA Regulations) in terms of Environmental Management Act (No 7 of 2007) (herein referred to as the EMA). The EIA process will investigate if there are any potential significant bio-physical and socio-economic negative impacts associated with the proposed development and associated infrastructure and services. The EIA process would also serve to provide an opportunity for the public and key stakeholders to provide comments and participate in the process. Lastly, based on specific nature of the affected environment, specialist input will also be sourced as and when required.

## **1.2 PROJECT NEED AND DESIRABILITY**

WT FUEL CENTER owns a cargo transportation company whose trucks export products through the Walvis Bay Corridor en-route through Katima Mulilo Border Post to neighbouring countries such as Zambia. In that regard, the proponent saw the need to put up a truck port along the Mpacha main road in Katima Mulilo with the intention of servicing their trucks as they travel through the town. In addition, there is limited parking space and services for the cargo transportation and trucks park along the Mpacha main road all the way to the border post. Consequently, the truck drivers are therefore exposed to unsafe measures having no where to park when in transit.

## **1.3 PROJECT LOCATION**

Katima Mulilo is a town of 28,362 inhabitants located on the national road B8 on the banks of the Zambezi River in lush riverine vegetation in the Zambezi Region. The proposed development of the truck port is located on Erf 546 along the Mpacha (B8) main road in Katima Mulilo and adjacent to the Roads Authority Weighbridge and the Shell service station. The proposed development is located within the townlands of Katima Mulilo. Refer to **Figure 1** below for locality map.



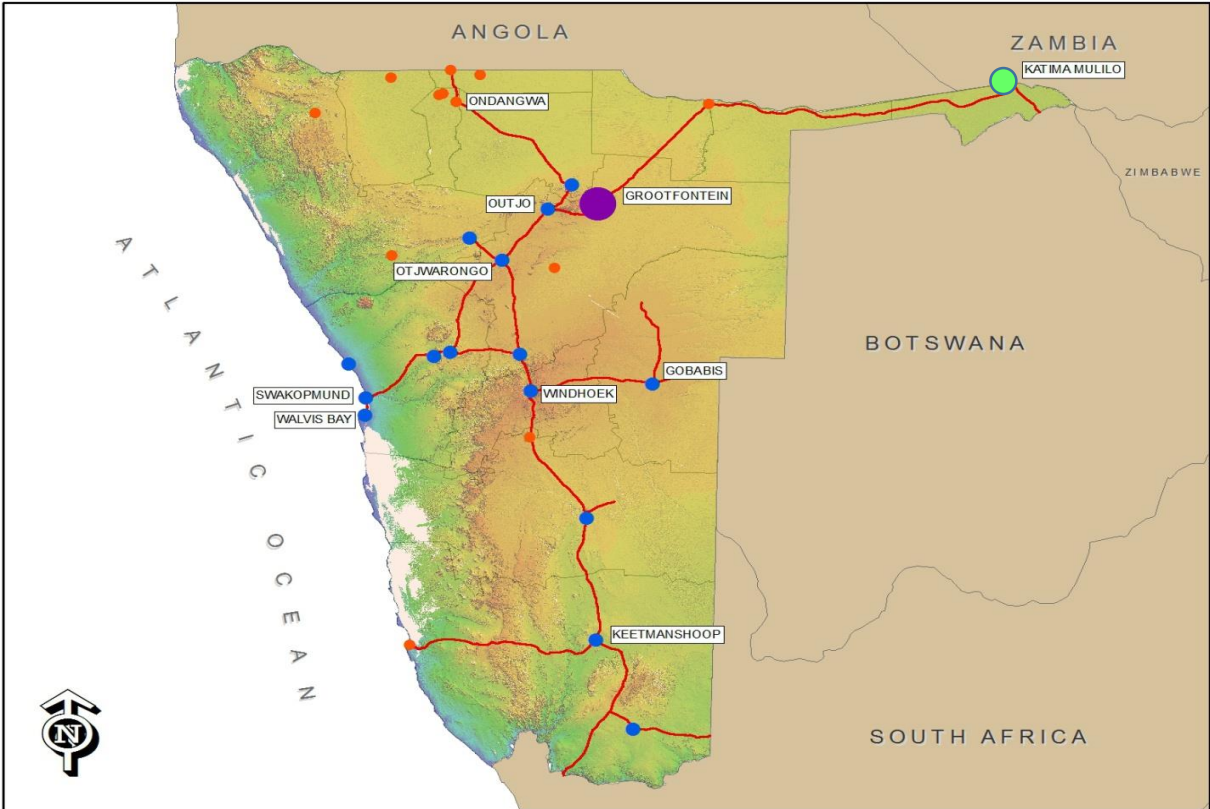


Figure 1: Locality map of Katima Mulilo (Map data © 2020 Google)

**LOCALITY MAP OF THE PROPOSED TRUCK PORT IN KATIMA MULILO, ZAMBEZI REGION**



Figure 2: Locality Map for the proposed development in Katima Mulilo

## 1.4 TERMS OF REFERENCE AND SCOPE OF PROJECT

The scope of this project is limited to obtaining an Environmental Clearance Certificate for the proposed development of a truck port together with its associated listed activities as per the Environmental Regulations and it does not extend to any other activity that is not part of this project.

The Final Environmental Assessment Report (FEAR) comprises the following information:

- An overview of the legal requirements which necessitated the assessment, as well as a review of other current or pending legal requirements that have a bearing on the activity;
- A description of the proposed project, including need and desirability, and the proposed activities that form the subject of the EIA process, i.e. details of the processes and infrastructure envisaged and the identification of potential alternative project actions;

A detailed description of the bio-physical and socio-economic environment;

- A description of the possible bio-physical and socio-economic impacts that have been identified to date, i.e. during the Project Initiation and EA Phase, and the means whereby such impacts will be subjected to methodological evaluation, their significance, mitigation potential and possible acceptance are concerned;
- A detailed description of the Public Participation Process (PPP) that underpins the current EIA process;
- An identification of alternatives, a description of aspects and the assessment thereof;
- Impact assessment and mitigation measures proposed by specialist reports; and
- A Final Environmental Management Plan (EMP), which would include the recommended mitigation measures required to reduce the significance of impacts identified in the EIA process.

## 1.5 ASSUMPTIONS AND LIMITATIONS

In undertaking this investigation and compiling the Environmental Assessment (EA), the following assumptions and limitations apply:

- Assumes the information provided by the proponent is accurate and discloses all information available.
- The limitation that no alternative except for the preferred layout plans and the 'no-go' option was considered during this assessment. The unique character and appeal of Katima Mulilo were however taken into consideration with the design perspective.

## 1.6 CONTENT OF ENVIRONMENTAL ASSESSMENT REPORT

Section 8 of the gazetted EIA Regulations requires specific content to be addressed in a Scoping / Environmental Assessment Report. **Table 1** below is an extract from EMA and highlights the required contents of the Environmental Assessment Report whilst assisting the reader to find the relevant section in the report.

**Table 1:** Contents of the Scoping / Environmental Assessment Report

<b>Section</b>	<b>Description</b>	<b>Section of DEAR/ Annexure</b>
8 (a)	<i>The curriculum vitae of the EAP who prepared the report;</i>	Refer to <b>Annexure F</b>
8 (b)	<i>A description of the proposed activity;</i>	Refer to Chapter 4
8 (c)	<i>A description of the site on which the activity is to be undertaken and the location of the activity on the site;</i>	Refer to Chapter 3
8 (d)	<i>A description of the environment that may be affected by the proposed activity and the manner in which the geographical, physical, biological, social, economic and cultural aspects of the environment may be affected by the proposed listed activity;</i>	Refer to Chapter 3
8 (e)	<i>An identification of laws and guidelines that have been considered in the preparation of the scoping report;</i>	Refer to Chapter 2
8 (f)	<i>Details of the public consultation process conducted in terms of regulation 7(1) in connection with the application, including</i>	Refer to Chapter 5
	<i>the steps that were taken to notify potentially interested and affected parties of the proposed application</i>	Refer to Chapter 5
	<i>proof that notice boards, advertisements and notices notifying potentially interested and affected parties of the proposed application have been displayed, placed or given;</i>	Refer to <b>Annexures B and C</b> for site notices and advertisements respectively.
	<i>a list of all persons, organisations and organs of state that were registered in terms of regulation 22 as interested and affected parties in relation to the application;</i>	Refer to <b>Annexure E</b>
	<i>a summary of the issues raised by interested and affected parties, the date of receipt of and the response of the EAP to those issues;</i>	Refer to <b>Annexure E</b>
8 (g)	<i>A description of the need and desirability of the proposed listed activity and any identified alternatives to the proposed activity that are feasible and reasonable, including the advantages and disadvantages that the proposed activity or alternatives have on the environment and on the community that may be affected by the activity;</i>	Refer to Chapter 4
8 (h)	<i>A description and assessment of the significance of any significant effects, including cumulative effects, that may occur as a result of the undertaking of the activity or identified alternatives or as a result of any construction, erection or decommissioning associated with the undertaking of the proposed listed activity;</i>	Refer to Chapter 7
8 (i)	<i>terms of reference for the detailed assessment;</i>	N/A – Assessment of impacts are included in this EA Report
8 (j)	<b>A Final</b> management plan	Refer to <b>Annexure A</b>

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## 2 LEGAL ENVIRONMENTAL FRAMEWORK

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*This chapter provides an overview of the legislation and policy framework for the EIA being undertaken. The EIA will be undertaken in compliance with the relevant Namibian environmental legislation as well as taking into account international best practice for impact assessments.*

### 2.1 THE CONSTITUTION OF THE REPUBLIC OF NAMIBIA

There are two clauses contained in the Namibian Constitution that are of particular relevance to sound environmental management practice, viz. articles 91(c) and 95(l). In summary, these refer to:

- Guarding against over-utilisation of biological natural resources;
- Limiting over-exploitation of non-renewable resources;
- Ensuring ecosystem functionality;
- Protecting Namibia's sense of place and character;
- Maintaining biological diversity; and
- Pursuing sustainable natural resource use.

The above therefore commits the State to actively promote and sustain environmental welfare of the nation by formulating and institutionalising policies to accomplish the abovementioned sustainable development objectives.

### 2.2 NAMIBIA'S ENVIRONMENTAL MANAGEMENT ACT (EMA)

In giving effect to articles 91(c) and 95(l) of the Constitution of Namibia, general principles for sound management of the environment and natural resources in an integrated manner have been formulated. This resulted in Namibia's Environmental Assessment Policy of 1994. To give statutory effect to this Policy, the Environmental Management Act was approved in 2007, and gazetted on 27 December 2007 as the Environmental Management Act (Act No. 7 of 2007) (EMA), Government Gazette No. 3966. Part 1 of the Environmental Management Act describes the various rights and obligations that pertain to citizens and the Government alike, including an environment that does not pose threats to human health, proper protection of the environment, broadened *locus standi* on the part of individuals and communities, and reasonable access to information regarding the state of the environment. Part 2 of the Act sets out 13 principles of environmental management, as follows:

- Renewable resources shall be utilised on a sustainable basis for the benefit of current and future generations of Namibians.
- Community involvement in natural resource management and sharing in the resulting benefits shall be promoted and facilitated.
- Public participation in decisions affecting the environment shall be promoted.
- Fair and equitable access to natural resources shall be promoted.
- Equitable access to sufficient water of acceptable quality and adequate sanitation shall be promoted and the water needs of ecological systems shall be fulfilled to ensure the sustainability of such systems.
- The precautionary principle and the strategy of preventative action shall be applied.

- There shall be prior environmental assessment of projects and proposals which may significantly affect the environment or use of natural resources.
- Sustainable development shall be promoted in land-use planning.
- Namibia's movable and immovable cultural and natural heritage, including its biodiversity, shall be protected and respected for the benefit of current and future generations.
- Generators of waste and polluting substances shall adopt the best practicable environmental option to reduce such generation at source.
- The polluter pays principle shall be applied.
- Reduction, reuse and recycling of waste shall be promoted.
- There shall be no importation of waste into Namibia.
- Promotion of the coordinated and integrated management of the environment;
- The Minister of Environment, Forestry and Tourism was enabled to give effect to Namibia's obligations under international environmental conventions;
- Certain institutions were established to provide for a Sustainable Development Commission and Environmental Commissioner".

As the organ of state responsible for management and protection of its natural resources, the MEFT: DEA is committed to pursuing these principles of environmental management.

### 2.2.1 EIA Regulations GN 28, 29, and 30 of EMA promulgated on 6 February 2012

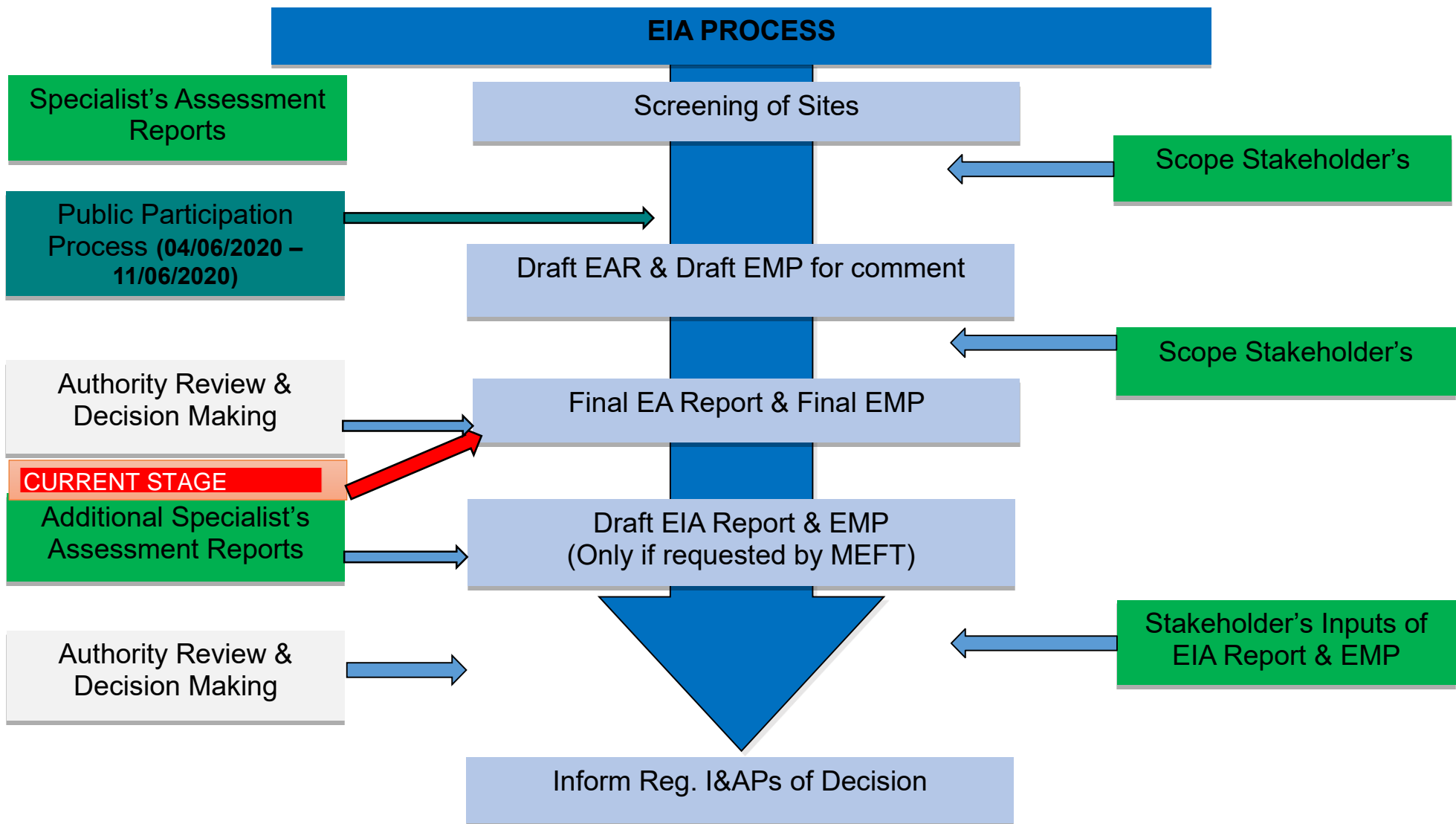
The gazette EIA Regulations promulgated in terms of the EMA, identify certain activities, which could have a substantially detrimental effect on the environment. These listed activities require an ECC from the competent environmental authority, i.e. MEFT: DEA, prior to commencing. The following activities identified in the EIA Regulations (**Table 2**) apply to the proposed project:

**Table 2:** List of triggered activities identified in the EIA Regulations which apply to the proposed project

Activity description and No(s):	Description of relevant Activity	The portion of the development as per the project description that relates to the applicable listed activity
Activity 9.1 Hazardous Substance Treatment, Handling and Storage	The manufacturing, storage, handling or processing of a hazardous substance defined in the Hazardous Substances Ordinance, 1974.	The project entails handling of hazardous substances (diesel) on site.
Activity 9.4 Hazardous Substance Treatment, Handling and Storage	The storage and handling of a dangerous goods, including petrol, diesel, liquid petroleum, gas or paraffin in containers with a combined capacity of more than 30 cubic meters at any one location	The project includes the handling and storage of petrol and diesel in containers.
Activity 9.5 Hazardous Substance Treatment, Handling and Storage	Construction of filling stations or any other facility for the underground and aboveground storage of dangerous goods,	The proposed project includes the construction of a truck port.

Activity description and No(s):	Description of relevant Activity	The portion of the development as per the project description that relates to the applicable listed activity
	including petrol, diesel, liquid petroleum, gas or paraffin.	
Activity 10.1 (j) (Infrastructure)	The construction of – Masts of any material or type and of any height, including those used for telecommunication broadcasting and radio transmission but excluding – i. Flag poles ii. Lightning conductor poles.	The proposed project includes the construction of a truck port flag pole / advertisement board.

This EIA process will be undertaken in accordance with the EIA Regulations. A Flow Diagram (refer to **Figure 3** below) provides an outline of the EIA process to be followed.



**Figure 3:** EIA Flow Diagram

### **2.3 ENVIRONMENTAL GUIDELINES**

The EMA, under section 5, states that if a proposal is likely to affect people, the following guidelines should be considered in Scoping / EA:

- The location of the development in relation to interested and affected parties (I&APS), communities or individuals;
- The number of people likely to be involved;
- The reliance of such people on the resources likely to be affected, the resources, time and expertise available for scoping / EA;
- The level of education and literacy of parties to be consulted;
- The socio-economic status of affected communities;
- The level of organisation of affected communities;
- The degree of homogeneity of the public involved;
- History of any previous conflict or lack of consultation;
- Social, cultural or traditional norms within the community; and
- The preferred language used within the community.

The MET also released a Draft Procedures and Guidelines for conducting EIAs and compiling EMPs in April 2008. These guidelines outline the procedures and principles that are to be followed. It will be consulted throughout the EIA process to ensure an effective process and an EMP that addresses all identified impacts.

### **2.4 NAMIBIA VISION 2030**

The principles that underpin Vision 2030, a policy framework for Namibia's long-term national development, comprise the following:

- Good governance;
- Partnership;
- Capacity enhancement;
- Comparative advantage;
- Sustainable development;
- Economic growth;
- National sovereignty and human integrity;
- Environment; and
- Peace and security.

Vision 2030 states that natural environments are disappearing quickly. Consequently, the solitude, silence and natural beauty that many areas in Namibia provide are becoming sought after commodities and must be regarded as valuable natural assets. Vision 2030 emphasises the importance of promoting Healthy Living which includes that the majority of Namibians are provided with basic services. The importance of developing Wealth, Livelihood and the Economy is also emphasised by Vision 2030. This development therefore supports the goals to be achieved in Vision 2030, because the truck port will provide the community, with more adequate fuel supply. It will also result in further development and populating of the town of Katima Mulilo.



## **2.5 BIODIVERSITY LEGISLATION AND POLICIES**

The following policies, aimed at biodiversity, may also be relevant for the proposed project:

- Convention on Biological Diversity (2000)
- Namibian Water Corporation Act (1997)
- Pollution and Waste Management Bill (Draft)
- Soil Conservation Act (1969)
- United Nations Framework Convention on Climate Change (1992)
- Water Resources Management Act (2004)
- Climate Change Policy (Draft with Attorney General's office)

The applicability of the aforementioned policies and legislation has been explored in further detail during this EIA phase, based on the findings of the impact assessment and specialist investigations.

## **2.6 SOCIAL POLICIES**

### **2.6.1 The Ministry of Environment, Forestry and Tourism (MEFT) Policy on HIV & AIDS**

The relevance of this policy for the proposed project stems from the fact that construction activities may involve the establishment of temporary construction workforce in the town of Katima Mulilo. Experience with other construction projects in a developing-world context has shown that, where construction workers have the opportunity to interact with local community, a significant risk is created for the development of social conditions and behaviors that contribute to the spread of HIV and AIDS.

In response to the threat the pandemic poses, MEFT has recently developed a policy on HIV and AIDS. This policy, which was developed with support from United States Agency for International Development (USAID), Gesellschaft für Technische Zusammenarbeit (GTZ) and the German Development Fund, provides for a non-discriminatory work environment and for workplace programs managed by a Ministry-wide committee.

## **2.7 TOWN PLANNING ORDINANCE OF 1954**

The Town Planning Ordinance makes provision for town planning schemes to be compiled for all local authorities in Namibia. The Town Planning Scheme of Katima Mulilo Town Council has the aim to control and regulate land uses within the town so as to minimise the impact of contradicting land uses. The town planning scheme for Katima Mulilo is the guideline which should be used in order to determine whether or not the proposed development is in line with the long term planning and vision for the town.

The Town Planning Ordinance also makes provision for the establishment and functions of the Namibia Planning Advisory Board (NAMPAB) that regulates development within proclaimed Local Authorities in Namibia.

NAMPAB is a statutory board formed under this Ordinance that deals with formal requests for subdivision of townlands or portions of lands as well as rezoning of land. The NAMPAB board consists of members from various Line Ministries such as Ministry of Environment and Tourism.

## **2.8 TOWN AND REGIONAL PLANNERS ACT 9 OF 1996**

The Town and Regional Planners Act 9 of 1996 establishes a council for Town and Regional Planners and provides for the training and registration of individuals in this profession. It therefore stands to reason that the rezoning application should be dealt with by individuals which meet the requirement of this Act in order to ensure that it is done correctly.

In terms of the Town Planning Scheme a change in land use must be advertised, a notice must be placed on site and on the notice board of the Municipality and letters are to be written to adjacent neighbours for their comments. If there are no comments or objections the application is submitted to the Katima Mulilo Town Council for approval where after the amendment is included in a Town Planning Amendment Scheme and submitted to NAMPAB and the Minister of MRLGHRD for approval and promulgation. The Amendment Scheme is also advertised by NAMPAB before final approval is given. In terms of the Town Planning Scheme, there are certain regulations pertaining to zoned erf in terms of land uses that may be permitted as well as building lines and height restrictions that must be adhered to.

## **2.9 ATMOSPHERIC POLLUTION PREVENTION ORDINANCE (ACT NO.11 OF 1976)**

This Ordinance serves to control air pollution from point sources, but it does not consider ambient air quality. Any person carrying out a 'scheduled process' which are processes resulting in noxious or offensive gases typically pertaining to point source emissions have to obtain a registration certificate from the Department of Health.

Although we do not anticipate the development to generate noxious or offensive gasses, the proponent will ensure that a registration certificate (air pollution permit) is obtained, if required. As duty of care, the proponent should implement the necessary mitigation measures set out in order to limit emissions to air in the form of dust during construction and operation. Emissions could occur during the event of a fire or explosion and then risk mitigation and management measures should be in place.

## **2.10 PETROLEUM PRODUCTS AND ENERGY ACT, 1990 (ACT NO. 13 OF 1990)**

The Act makes provision for impact assessment for new proposed fuel facilities and petroleum products known to have detrimental effects on the environment.

## **2.11 HAZARDOUS SUBSTANCES ORDINANCE NO. 14 OF 1974**

The Ordinance applies to the manufacture, sale, use, disposal and dumping of hazardous substances, as well as their import and export and is administered by the Minister of Health and Social Welfare. Its primary purpose is to prevent hazardous substances from causing injury, ill-health or the death of human beings.

## **2.12 WATER ACT NO.54 OF 1956**

This Act provides for Constitutional demands including pollution prevention, ecological and resource conservation and sustainable utilisation. In terms of this Act, all water resources are the property of the State and the EIA process is used as a fundamental management tool.

A water resource includes a watercourse, surface water, estuary or aquifer, and, where relevant, its bed and banks. A watercourse means a river or spring; a natural channel in which water flows regularly or intermittently; a wetland lake or dam, into which or from which water flows; and any collection of water that the Minister may declare to be a watercourse. Permits

are required in terms of the Act for undertaking the following activity relevant to the proposed project:

- Disposal of waste in a manner that may detrimentally impact on a water resource in terms of Section 21 (g).

### **2.13 WATER RESOURCES MANAGEMENT ACT OF NAMIBIA (2004)**

This act repealed the existing South African Water Act No.54 of 1956 which was used by Namibia. This Act ensures that Namibia's water resources are managed, developed, protected, conserved and used in ways which are consistent with fundamental principles depicted in section 3 of this Act. Part IX regulates the control and protection of groundwater resources. Part XI, titled Water Pollution Control, regulates discharge of effluent by permit. Thus developers are required to efficiently plan for sewage disposal.

### **2.14 POLLUTION CONTROL AND WASTE MANAGEMENT BILL (IN PREPARATION)**

This Bill serves to regulate and prevent the discharge of pollutants to air and water as well as providing for general waste management. The Bill will repeal the Atmospheric Pollution Prevention Ordinance (11 of 1976) (below) when it comes into force.

Only Parts 2 and 7 of the Bill applies to the proposed development of a truck port in Katima Mulilo.

Part 2 stipulates that no person shall discharge or cause to be discharged any pollutant to the air from a process except under and in accordance with the provisions of an air pollution licence issued under section 23. It further provides for procedures to be followed in licence application, fees to be paid and required terms of conditions for air pollution licences.

Part 7 states that any person who sells, stores, transports or uses any hazardous substances or products containing hazardous substances shall notify the competent authority, in accordance with sub-section (2), of the presence and quantity of those substances.

In terms of water pollution, it will be illegal to discharge of, or dispose of, pollutants into any watercourse without a Water Pollution Licence (apart from certain accepted discharges). Similarly, an Air Quality Licence will be required for any pollution discharged to air above a certain threshold.

The Bill also provides for noise, dust or odour control that may be considered a nuisance. The Bill advocates for duty of care with respect to waste management affecting humans and the environment and calls for a waste management licence for any activity relating to waste or hazardous waste management.

The proposed development would not entail the discharge to air and or water, but might result in the generation of noise and dust during the construction phase. The potential risk of hazardous substance leakages does occur and should be managed accordingly.

### **2.15 PUBLIC HEALTH ACT 36 OF 1919 AND SUBSEQUENT AMENDMENTS**

The Act, with emphasis to Section 119 prohibits the presence of nuisance on any land occupied. The term nuisance for the purpose of this EIA is specifically relevant specified, where relevant in Section 122 as follows:

- Any area of land kept or permitted to remain in such a state as to be offensive, or liable to cause any infectious, communicable or preventable disease or injury or danger to health; or
- Any other condition whatever which is offensive, injurious or dangerous to health.

Potential impacts associated with the development of the proposed development of Katima Mulilo are expected to include dust, air quality impacts.

### **2.16 NATIONAL HERITAGE ACT (NO.76 OF 1969)**

The Act calls for the protection and conservation of heritage resources and artefacts. Should any archaeological material, e.g. old weapons, coins, bones found during the construction, work should stop immediately and the National Heritage Council of Namibia must be informed as soon as possible. The Heritage Council will then decide to clear the area or decide to conserve the site or material.

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## 3 ENVIRONMENTAL BASELINE DESCRIPTION

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*This chapter provides an overview of the environmental and biophysical characteristics of the affected area, and further provides a detailed description of the characteristics pertaining to the socio-economic and bio-physical environment. Please note that pictures of the proposed site are included in a Photo Plate attached as **Annexure D**.*

### 3.1 SOCIAL ENVIRONMENT

#### 3.1.1 Socio-Economic Context

According to the 2011 Census, the total population enumerated in Zambezi Region is estimated at 90,596. Of these, 46,497 are females and 44,099 are males. Approximately 31% of the total population is located in urban parts and 69% in rural parts of the region. The total population of Katima Mulilo to be specific is 28,362. (NPC, 2011).

In Zambezi Region the population under 5 years of age is 14%. The population ranging from the age of 5 to 14 years of age comprise 25% of the region's population. The working age population, 15 to 59 years, makes up 55% of the whole population in the region. A relatively low percentage, 6% of the population, was above 60 years of age. For every 100 females in Zambezi Region there are 95 males, whereas the Khomas Region supports a 100:98 ratio females to males, respectively.

In Zambezi Region the literacy rate of the age group 15 years and up, is 84%. 16% of all people above the age of 15 have never attended school, 18% are currently attending school and 59% left school at the time, in Zambezi Region.

The main languages spoken at home in Zambezi Region are Caprivi languages at 90% as compared to the Khomas Region where 41% communicates in Oshiwambo languages, 19% in Afrikaans, 12% in Nama/Damara and 10% in Otjiherero. Approximately 61% of the population aged 15 years and up belong to the labour force (i.e. economically active) in Zambezi Region. 62% of the population is employed while 32% are unemployed. The inactive group, which consists of homemakers, 26%, students 48% and the severely disabled, retired or old age income recipients 21% makes up of the regions' population.

The main source of income in this region is from wages and salaries at 30%, business and non-farming activities at 29% and farming at 21%. Cash remittance makes up 6% respectively. The older age group makes up 15% of the regions income.

#### 3.1.2 Archaeological and Heritage Context

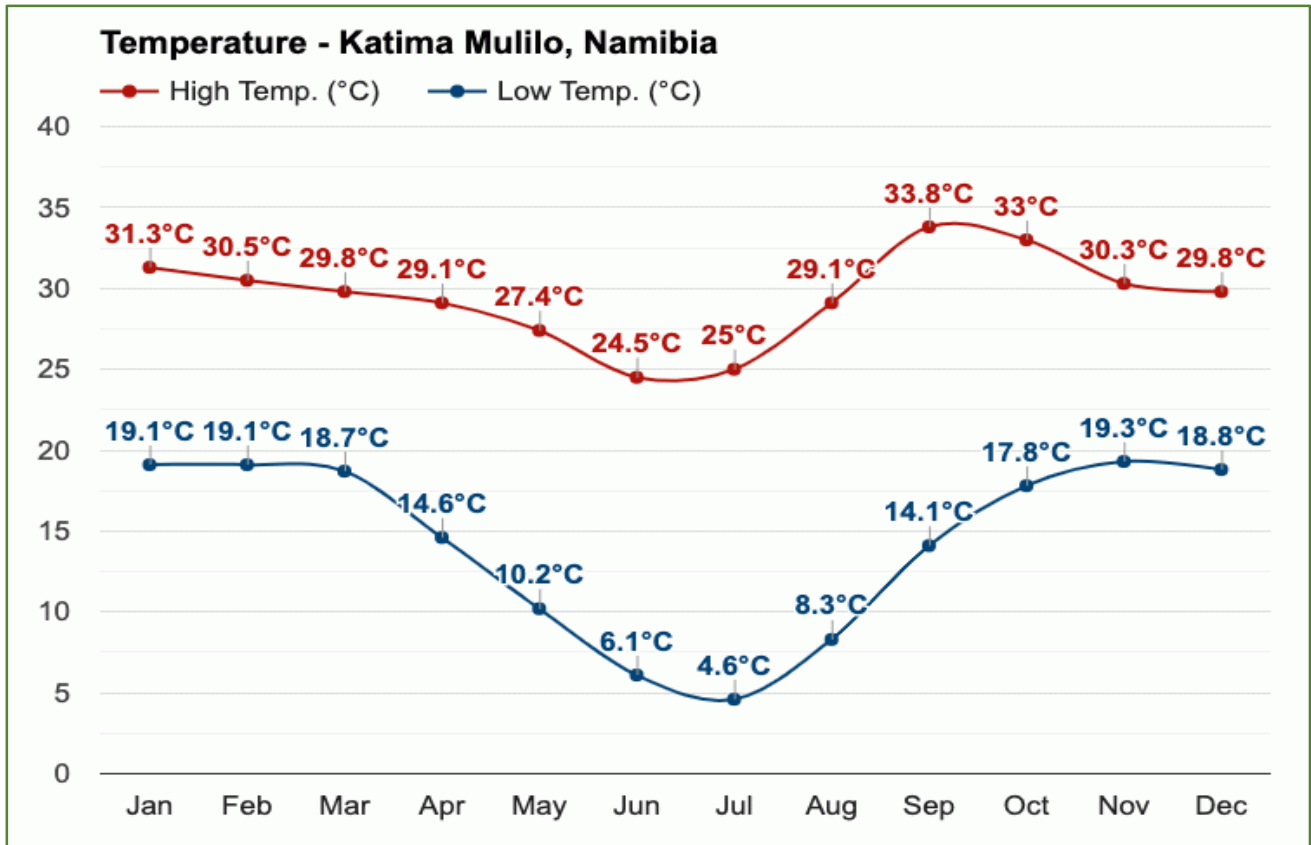
It is highly unlikely that the site will have any momentous archaeological resources or features due to the fact that no major historical activity took place within close proximity of the site. However, an accidental find procedure may be required in the EMP.

No known heritage sites are however located within the proposed development area. If any heritage or cultural significant artefacts are found during the construction of the proposed development, construction must stop and the National Heritage Council of Namibia should be immediately notified.

## 3.2 BIO-PHYSICAL ENVIRONMENT

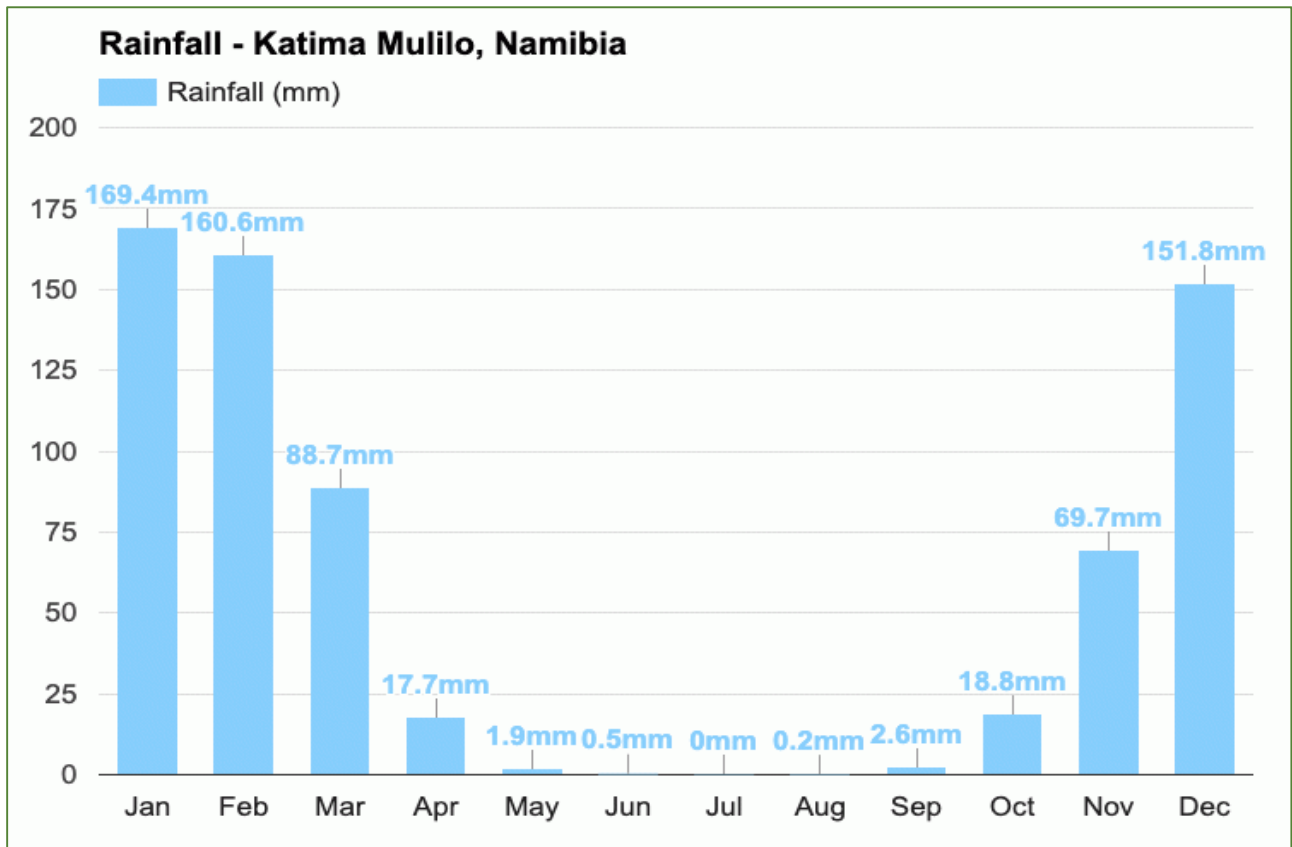
### 3.2.1 Climate

Katima Mulilo has a local steppe climate. The climate in the town is classified as BSh by the Köppen-Geiger system. The average maximum temperature as indicated in figure 2 below varies between 24.5 and 33.8°C with the average minimum temperature between 4.6 and 19.3°C.



**Figure 4:** Average monthly temperature for Katima Mulilo (Weather Atlas®, 2020)

In Katima Mulilo, there is little rainfall throughout the year. Rainfall is usually expected during the summer months as indicated in figure 3 below and on average 95% of this rainfall is experienced from November to April. Katima Mulilo receives an annual precipitation of 684 mm. No rain of any significance falls from May to September, and the chance of rain increases progressively from October until January, the month with the highest total on average, and then decreases again until April.



**Figure 5:** Average monthly temperature for Katima Mulilo (Weather Atlas®, 2020)

### 3.2.2 Surrounding Land Use

The proposed site in question is currently vacant and it was previously utilized for fuel/diesel retail facility purposes by the Lessor (*Roads Contractor Company - RCC*). The site is currently zoned for business and/or industrial developments and therefore is located within the industrial area of Katima Mulilo. The general biophysical conditions of the site are predominantly free of sensitive flora and fauna. However, the trees found on site will not be removed or cleared and will remain as is. The surrounding land use in close proximity is characterized by industrial and business erven to the north and south, the B8 Mpacha (main) road to the east and open townlands to the west.

### 3.2.3 Topography, Geology, Hydrogeology

The topography of the region is flat, with the height above sea level from 930 m in the east to 1100 m in the west.

#### **Geology:**

The geological setup in the Zambezi Region is not very well known since most of the area is covered by Kalahari sediments and only few deeper penetrating wells exist. The Eastern Caprivi is dominated at the surface by Kalahari deposits.

This description is based on deep boreholes drilled for coal exploration underneath the Stormberg Lava in the Nata Sub-Basin/Botswana, located to the SE of the region. There the volcanic sequence consists of several successions of lava flows each up to 50 m thick. In each flow there is a basal zone which is finer grained, fractured, associated with thin tuffaceous bands and commonly of purplish grey color. In the thicker flows a core of fine to medium crystalline dolerite developed, which is dark grey-green, fresher and more massive. Thin red

sandy siltstones occur between some lava flows where the tops had been laterized. Below the laterite a thin band of more acidic lava is reported, whereas a zone of andesitic lava is recognized at the bottom of the flow.

Outcrops of underlying rocks are scarce and the geology is only known from a few exploration boreholes. The subsurface geology of the Western Caprivi is dominated by the Damara Sequence consisting of quartzitic sandstone and dolomites, partly covered by volcanic rocks in the central western part. Mainly volcanic rocks underlie the Kalahari throughout the Eastern Caprivi although sandstones of the Etjo Formation are present in some parts (Christelis & Struckmeier, 2001).

Surface soils across the Zambezi Region are completely dominated by sand. At deeper levels of more than one metre are layers of clays, conglomerates, sands, silts and calcretes that originate from wetter climates in the geological past.

Small scale variations in soil type occur, with areas close to the Zambezi River containing fine sediments (silt, clay and fine sands) deposited during floods, and other sporadically-distributed areas rich in calcium carbonate. The more clayey soils are slightly more fertile than sands, and they are mostly cultivated. However, all soils in Kavango generally have low fertility (Mendelsohn & el Obeid 2003).

#### **Hydrogeology:**

Groundwater in the Caprivi is mainly tapped from the Kalahari Sequence, which displays variable groundwater properties over short distances. It forms a porous aquifer, indicated in blue shades on the main Map. Fractured aquifers are absent in the region. Variable yields from 0 to more than 20 m<sup>3</sup>/h are recorded. Although the lithology intersected during drilling is important, the success of a borehole is less dependent on the siting technique than on drilling and well construction methods. In many boreholes, low yields and clogging are due to poor borehole design and construction (Christelis & Struckmeier, 2001).

Zambezi Region consists of surface water courses which are part of the Zambezi surface water catchment area. There are four perennial water courses in the region is the Kwando River, Linyanti River, Chobe River and Zambezi River.

The Kwando River has its origin in Angola and covers a catchment of some 120,000 km<sup>2</sup> before it crosses into Caprivi. At the Angolan border the Kwando River has a main channel approximately 30 m wide and a flood plain of about 2 km width with various side channels and oxbow lakes. Soon after the Kwando River passes the village of Balelwa it enters a region known as the Linyanti Swamp.

The Linyanti River bed is approximately 10 km wide and composed of a few isolated open water channels with the majority of the region being swampy. The Linyanti swamp is sharply bounded on the Botswana side where the terrain is slightly higher. It is believed that the south-eastern limit of the swamp follows a major fault line, along which the south-eastern side has been uplifted (MENDELSON & ROBERTS, 1997).

When water levels are high enough, the Kwando River connects with the Zambezi River through the Linyanti River, Lake Liambezi and Chobe River. At such times the Kwando River may also collect water from the Okavango River through the Selinda Spillway.

The Linyanti River drains into Lake Liambezi, which during periods of flooding covers an area of more than 260 km<sup>2</sup>. Drainage into Lake Liambezi also occurs from the local catchment area



and from the Bukalo Channel, by which Lake Liambezi receives water from the Zambezi River at times of peak floods. Water from Lake Liambezi is flowing out to the Chobe swamp of the Chobe River to the east. During periods of high flow in the Zambezi, backwater pushes up the Chobe from the confluence and it has been observed that back flows reached Lake Liambezi. Since 1981 the levels of Lake Liambezi started to drop significantly and the lake has been dry since 1985 (MENDELSON & ROBERTS, 1997).

The base flow of the Kwando River is not sufficient to support both Lake Liambezi and the Linyanti Swamp and River. During runoff peaks in the Zambezi and the Kwando there is a high risk of flooding especially in the low-lying eastern parts of the eastern Caprivi (MENDELSON & ROBERTS, 1997).

### 3.2.4 Terrestrial Ecology

The natural vegetation in the town is partly Kalahari Woodland and Mopane Savanna, and partly the Zambezi Forest. However now, only small remnants of this vegetation remained, mostly on the banks of Zambezi River. The town is well-timbered with both indigenous and exotic trees and shrubs. Among trees, the most common are fruit trees, such as mangos, papayas, kasavas, lemons and also bananas (Kopij,2016).

Indigenous wild trees include among many others: African Teak *Pterocarpus angolensis*, *Albizias Albizia spp.*, Apple Leaves *Lonchocarpus nelsii*, Baobab *Adansonia digitata*, *Burkea Burkea africana*, *Combretum Combretum spp.*, Camel-thorn *Acacia erioloba*, *Corkwoods Commiphora spp.*, *False Mopane Guibourtia coleospermum*, Jackal Berry *Diospyros mespiliformis*, *Knob-thorn Accacia nigrescens*, *Makalani Palm Hyphaene petersiana*, *Manketti Schinziohyton rautanenii*, *Marula Sclerocarya birrea*, *Mopane Colophospermum mopane*, Pod Mahogany *Azalia quanzensis*, Silver Cluster-leaf *Terminalia sericea*, Sausage Tree *Kigelia africana*, *Sycomore Fig Ficus sycomorus*, White Bauhinia *Bauhinia petersiana* Zambezi Teak *Baikiaea plurijuga* (Kopij,2016).

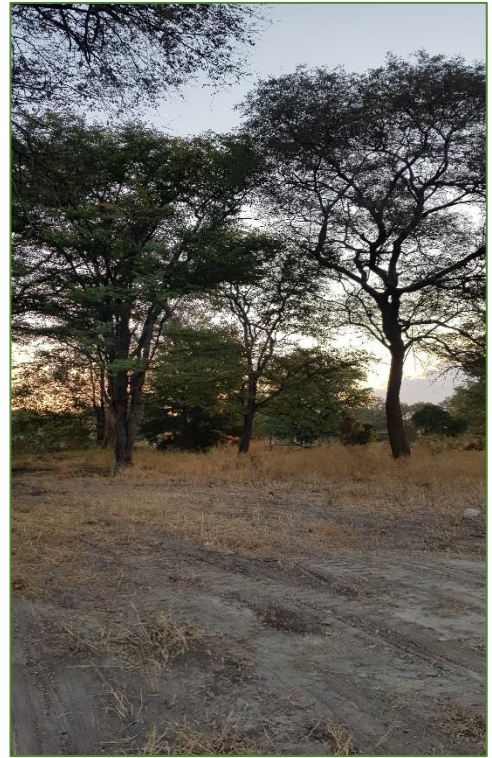
The most common exotic trees are gums *Eucalyptus spp.*, jacarandas *Jackaranda sp.*, sheoaks *Cassuarina sp.* For birds especially important are older and larger specimens of these trees. It should be emphasized that these trees require special protection as they play a vital role in the urban ecology.

#### **The Site:**

The project area is currently surrounded by big trees. Typical trees found mostly on site are Mopane (*Terminalia Woodland*) which are mostly found in half of the Zambezi Region. *Burkea – Combretum woodland* and *Burkea – kiaat – false Mopane woodland* are also some of the trees found on site.

In addition, grass grows between trees and shrubs in the woodlands, and certain types of tall strong grasses (*mainly Eragrostis pallens*) are harvested for thatching. Omiramba support good grazing fodder for livestock, particularly the lawn grass *Cynodon dactylon*.

The grass that is found on site will be cleared to allow for the development and/or project to take place. However, none of the trees found on site will be removed. These trees will be kept to maintain and fully integrate with the layout design of the project. Below are the trees or vegetation found on site:



**Figure 6:** Vegetation found on site

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## 4 PROJECT DESCRIPTION

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*The purpose of this chapter is to provide a detailed description of the project components. In addition, a description of reasonable and feasible alternatives is also provided.*

### 4.1 PROJECT COMPONENTS

WT FUEL CENTER (proponent) has been allocated the existing Roads Contractor Company (RCC) site with the intention of utilising it for fuel (diesel) retail purposes and also serving as a truck port. This is an agreement between the proponent and RCC. The site is situated on Erf 546 in Katima Mulilo along the Mpacha main road. The proposed truck port will cater mainly for the proponent's cargo transportation for filling up, making use of the existing workshop on site for their truck repairs and will be known as "WT FUEL CENTER. WT is a Namibian owned cargo transportation company that exports fish products from Walvis bay to Zambia. The site area in question measures approximately 8000m<sup>2</sup> in extent and is currently zoned as "Industrial" (business).

On the premises (site), there exists already underground fuel tanks that were utilised by the Roads Contractor Company (RCC) (Lessor) for filling up their construction machinery (refer to **figure 7** below). Given the unknown status quo of these tanks, the proponent is therefore of the intention to install on site and make use of a Container (Diesel) Tank during the operational phase of the truck port. The existing underground tanks have a capacity of 82 000 Litres and the Container Tank will have a capacity of 64 000 Litres. The underground tanks will not be utilised for the time being- however, overtime the proponent will conduct a due diligence study in which a new management plan will be employed. This will also ensure that, no possible leakages through to groundwater sources as well as the environment overall are foreseen from the existing tanks. As a result, no excavations will take place except that the proponent will however remove all dirt (including long grown grass or weed) which will make way for the development to take place.



**Figure 7:** Existing RCC Underground Tanks on site



**Figure 8:** Existing RCC Workshop on site

The need to establish an additional truck port in town arose given the shortage of truck ports within Katima Mulilo town. Trucks travelling through the Walvis Bay Corridor and in transit to neighbouring countries (e.g. Zambia) often have nowhere to park hence they end up parking alongside the main road (Mpacha) which has raised safety concerns amongst truck drivers.

The Katima Mulilo - Zambia Border Post does not have sufficient parking space for all cargo transportations as can be seen in **figure 9** below. Therefore, given that the proponent owns a cargo transportation company, their trucks are one of those that bare the unsafe measures of parking alongside the road.



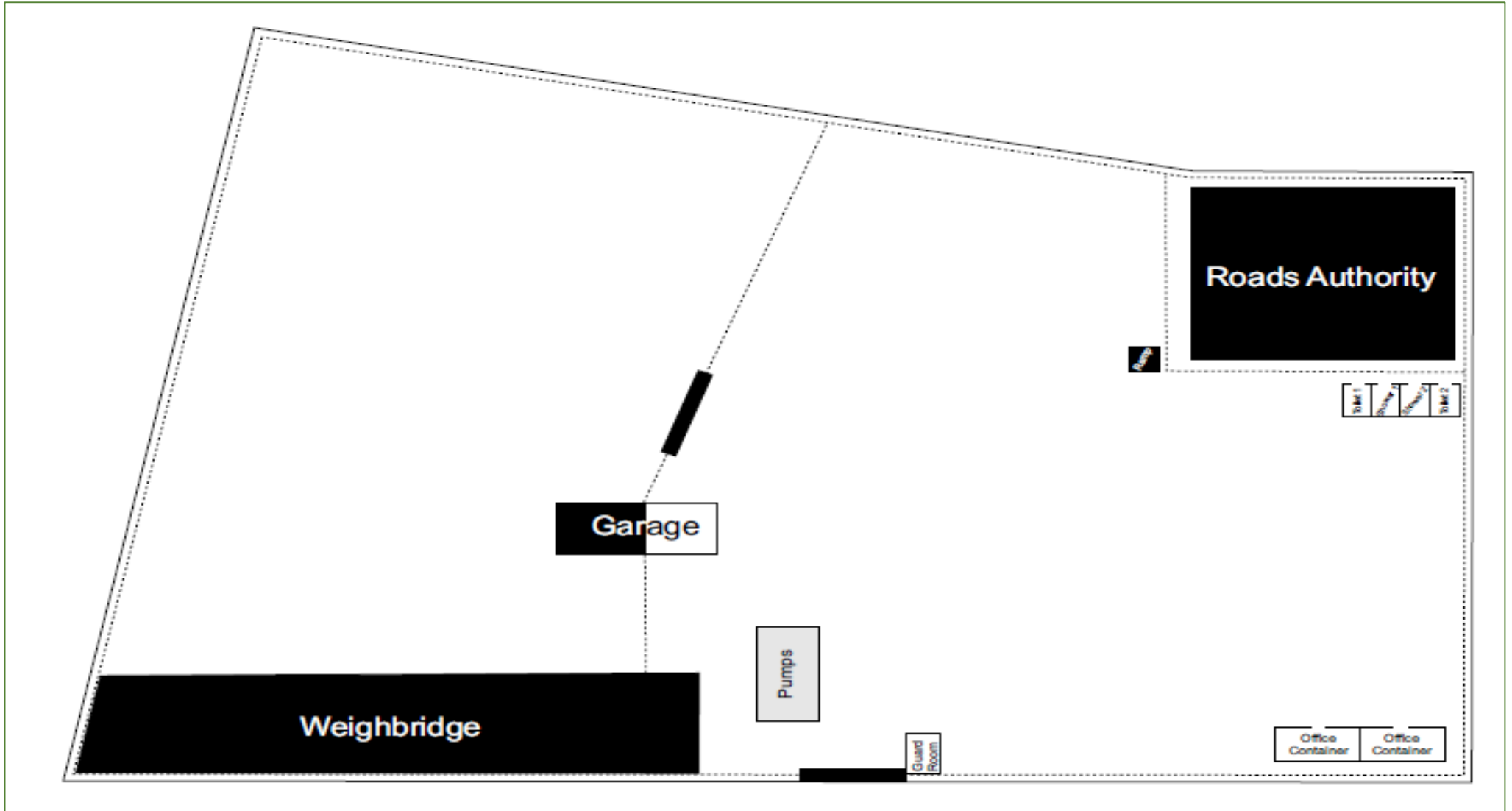
**Figure 9:** Parked Trucks in transit at the Katima Mulilo – Zambia Border Post

#### 4.1.1 WT FUEL CENTER Truck Port Description

The project has the aim to:

- Create more convenient parking areas for cargo transportation through the town.
- To contribute to the diversification of the local economy of Katima Mulilo at large.
- Provide better mechanical repair services for cargo transportation within the town.

Below is the layout design of the proposed truck port on Erf 546 and the Container Tank in Katima Mulilo.



**Figure 10:** Layout design of the proposed truck port



Figure 11: Layout Design of the Container (Diesel) Tank

#### **4.1.2 Engineering Services of the proposed Truck Port**

The truck port will be situated on an existing site which already has engineering services (such as water, electricity, sewer reticulation, access roads) installed. Therefore, there will be no new engineering services to be designed and installed for the truck port. The truck port will make use of the existing services on site.

##### **Access Roads:**

Access to the development will be obtained from Mpacha main road. It is important to note that all approvals for access from the main roads have been sought from the Roads Authority.

##### **Refuse removal:**

Katima Mulilo Town Council already caters for refuse removal in the town and has capacity to accommodate waste for the added truck port.

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## 5 PROJECT ALTERNATIVES

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*The purpose of this chapter is to provide a detailed description of the project components. In addition, a description of reasonable and feasible alternatives is also provided.*

### 5.1 NO-GO ALTERNATIVE

The no-go alternative is the baseline against which all alternatives are assessed. The no-go alternative would essentially entail maintaining the current situation, whereby residents of Katima Mulilo will continue to have limited commercial developments and no added growth within their town. In addition, if the proposed development does not commence there will continue to be a demand for truck ports with essential cargo transportation needs in town.

In addition, the region at large will be hindered due to insufficient truck port facilities, which could result in truck drivers having to endure the consequences of parking their trucks alongside the roads. The proposed truck port is however intended to cater mostly for the proponent's cargo transportation but not limited from assisting other truck operators who may wish or need mechanical repair services or maintenance for their trucks.

Given the project location and its status quo, should it happen that the proposed site does not get developed, residents of the town will strive to make use of the open space by means of illegal dumping of waste resulting in the creation of unhygienic conditions. It will similarly become an unsafe environment for the residents which will lead to the increase in crime rates within the town. therefore, the development of the site will ensure the optimal and controlled utilisation of the site.

With no development, there will be no added associated economic investment in the town and no potential regeneration. Furthermore, operational jobs will be created and the benefits that will accrue due to the project on the national, regional and global scale will be compared to the economic, social and environmental status if the area is left as it is or designated to other land use types. These land use types may entail those that are most probable to be adopted such as building of unplanned or planned dwellings, unorganized quarrying or dumping of waste. Thus the No-go option will not be a viable alternative at this stage.

### 5.2 SITE ALTERNATIVES

With regards to the proposed development, there is no other alternative land use for the intended development. The site area in question belongs to the Roads Contractor Company and due to the fact that RCC currently makes use of the site to only store their construction rubble, the proponent found it fit to make use of the same site as a truck port to provide services to his cargo transportation. The proponent's preference or decision to make use of the RCC site was also based on its strategic location as well as the facilities that are already existing on site.

The environmental footprint is expected to be minimal as the project location has already been utilised by RCC for its previous operations. The possible impacts at the project location, both environmental and socio-economic, are of such a nature that they can be mitigated through good practice.



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## 6 PUBLIC PARTICIPATION PROCESS

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*The purpose of this chapter is to provide an outline of the Public Participation Process, a summary of the process undertaken to date and the way forward with respect to public participation as part of this project. This chapter also provides a summary of the key issues that have been raised to date.*

### 6.1 PUBLIC PARTICIPATION REQUIREMENTS

In terms of Section 21 of the EIA Regulations a call for open consultation with all I&APs at defined stages of the EIA process is required. This entails participatory consultation with members of the public by providing an opportunity to comment on the proposed project. Public Participation has thus incorporated the requirements of Namibia's legislation, but also takes account of international guidelines, including Southern African Development Community (SADC) guidelines and the Namibian EIA Regulations. Public participation in this project has been undertaken to meet the specific requirements in accordance with the international best practice.

### 6.2 PROPOSED APPROACH

The public participation process (PPP) undertaken for this project can be divided into the following phase:

- Project initiation;
- Environmental Assessment Phase; and
- EIA Phase (if required) by the Ministry of Environment, Forestry and Tourism.

#### 6.2.1 Initiation of the Public Participation Process

The approach adopted for the initiation of the EIA and associated PPP was to identify and contact potential I&APs as possible through a number of activities which included:

- Placement of site notices/ posters in Katima Mulilo namely; Katima Mulilo Town Council's notice board, Katima Mulilo State Hospital, Katima Mulilo Open Market and other places in and around Katima Mulilo dated 06<sup>th</sup> June 2020 (refer to **Annexure B**);
- Placing advertisements in two newspapers namely The Namibian and New Era dated 04<sup>th</sup> June & 11<sup>th</sup> June 2020 (refer to **Annexure C**);
- Distribution of the Background Information Document to all Interested & Affected Parties of Katima Mulilo on 05<sup>th</sup> June 2020 (refer to **Annexure E**);
- Giving written notice of the proposed project to potentially affected stakeholders via email dated 04<sup>th</sup> June 2020 (refer to **Annexure E**).

The Public Participation Process was formally initiated with the advertisement of the EIA process in the newspapers (New Era and The Namibian) on **04<sup>th</sup> June 2020 and 11<sup>th</sup> June 2020**. As part of the notification period, all of the identified potential I&APs were invited to participate in the EIA process via email. I&APs were given more than 14 days within which to submit comments or register from **04<sup>th</sup> June 2020 up until 23<sup>rd</sup> June 2020**.

During the distribution of the background information document, a few comments were raised by the residents of the town. below is a list of comments or concerns raised:

**Table 3: Main issues received during initial PPP**

Impact Group	Potential impacts / issues identified during public consultation
I&AP (neighbor)	<p>After receiving the background information document (BID) for the proposed Truck Port in Katima Mulilo (WT Fuel Center), we hereby would like to raise a few concerns about the proposed Fuel Centre Development on erf 546.</p> <ol style="list-style-type: none"> <li>1. The proposed erf is at present owned by a governmental institution, according to my knowledge to apply for EIA approved plans from the municipality should be attached if plans were approved who applied for the approved plans.</li> <li>2. Can you please provide us with proof of council Resolution letter that approves that erf 546 can conduct a Service Station Business.</li> <li>3. Did the Developer WT Fuel Centre conduct a feasibility study including a traffic assessment to support the development of the New Truck Port. I am raising this as this development could bring more a negative socio-economic impact to the area than positive.</li> <li>4. Does it make economic sense to develop a New Service Station along the Mpacha Road where six already exists, Plus the upcoming fuel depot.</li> <li>5. Is WT Fuel Centre developer aware that there are approved plans on erf 543 for the construction of a Fuel Depot.</li> <li>6. We understand that development as taken place already, according to MME no development should initiate before a retail or wholesale license has been approved and signed by MME, if EIA is not completed yet how can WT Fuel Centre have a license already. As you may be aware a MME Retail license can only be approved after an EIA has been issued, as we can observe on your BID document you are still in the process of applying for an EIA.</li> <li>7. On September 2019 the Ministry (MME) raised the concern and worried about the mushrooming of Service Stations in Urban as well as remote areas that could lead to the closure of existing ones.</li> <li>8. Can WT Fuel Centre please provide us with the support letter from the Fuel company that supports his project.</li> <li>9. Please accord us an opportunity to comment on the draft EIA report.</li> </ol> <p>In the event that all these concerns are not answered satisfactorily, I would object that such a development takes place.</p>
I&AP	<ol style="list-style-type: none"> <li>1. There is no permanent structure to be build on site. On (BID) Background Information of the Project * <b>Construction and operation of a Truck Port in Katima Mulilo.</b></li> <li>2. At the premises there is already an existing fuel facility which includes both a 83 000 litre and a 9 000 litre tanks Both tanks are more than 30 years old and have not been used for more than 10 years and have had water inside them according to the environmental and MME rules and regulation may not be further used and should infect be removed from underground to avoid under water contamination as at the specific area underground waters levels are at 2 meter.</li> <li>3. We are only using facility for use of own trucks. On BID Study Area / Project Location * <b>WT FUEL CENTRE for the same purpose – as a fuel retail facility (what does retail mean).</b></li> <li>4. No depot will be put up On BID Project Description * <b>The truck port will be available to the public and it will mainly cater for cargo transportation (trucks).</b></li> <li>5. There is no development taking place On BID Project Description * <b>The development will further entail the construction of ablution facilities to support the operations of the truck port. (how can ablution be construction without a plan)</b></li> </ol>

Impact Group	Potential impacts / issues identified during public consultation
I&AP	<p>We would like to raise a few concerns about the proposed Fuel Centre Development (WT Fuel Centre) on erf 546 in Katima Mulilo.</p> <ol style="list-style-type: none"> <li>1. There are six service station along the Mpacha Road. Does is make economical sense to put up yet again another Service Station?</li> <li>2. Is there approval from the town council on erf 546 to conduct or operate a service station?</li> <li>3. Was there a feasibility study done on the traffic assessment to support the new site? To many site in an area can be negative to economy.</li> <li>4. As per the BID document, you are still in the process of applying for the EIA. According to MME regulations, a retail license can only be issued once the EIA have been issued. How does this work?</li> <li>5. Who is the oil company supporting this project?</li> </ol> <p>Please supply useful answers to the asked questions, otherwise we will object against this project taking place.</p>

The preliminary database formed the basis of the current I&AP Register, which includes directly affected landowners, relevant authorities and organs of state, who are automatically included in the I&AP register. The current I&AP register includes all the above I&APs identified in the initial database as well as additional I&APs who registered during the comment period (refer to **Annexure E**). It should be noted that the I&AP database will be updated throughout the project as new I&APs register.

### 6.3 ENVIRONMENTAL ASSESSMENT PHASE 2

The second phase of the PPP involved the drafting of the Draft Environmental Assessment Report (DEAR) to all registered I&AP for comment. Registered and potential I&APs were informed of the DEAR for public comment *via* an email dated **16 July 2020**. An Executive Summary of the DEAR was also included in the email to the registered I&APs. I&APs had until **29 July 2020** to submit comments or raise any issues or concerns they may have with regard to the proposed project.

No comments were received during phase 2 of the public participation process regarding the proposed project.

### 6.4 WAY FORWARD

The Final Environmental Assessment Report (FEAR) will now be submitted to MEFT: DEA for consideration and decision making. If MEFT: DEA approves or requests additional information / studies all registered I&APs and stakeholders will be kept informed of progress throughout the assessment process.

## 7 ASSESSMENT METHODOLOGY

*The purpose of this chapter is to describe the assessment methodology utilized in determining the significance of the construction and operational impacts of the proposed project, and where applicable the possible alternatives, on the biophysical and socio-economic environment.*

Assessment of predicted significance of impacts for a proposed development is by its nature, inherently uncertain – environmental assessment is thus an imprecise science. To deal with such uncertainty in a comparable manner, a standardised and internationally recognised methodology has been developed. Such accepted methodology is applied in this study to assess the significance of the potential environmental impacts of the proposed development, outlined as follows in **Table 3**.

**Table 3:** Impact Assessment Criteria

CRITERIA	CATEGORY
<b>Impact</b>	Description of the expected impact
<b>Nature</b> Describe type of effect	<b>Positive:</b> The activity will have a social / economical / environmental benefit. <b>Neutral:</b> The activity will have no effect <b>Negative:</b> The activity will have a social / economical / environmental harmful
<b>Extent</b> Describe the scale of the impact	<b>Site Specific:</b> Expanding only as far as the activity itself (onsite) <b>Small:</b> restricted to the site's immediate environment within 1 km of the site (limited) <b>Medium:</b> Within 5 km of the site (local) <b>Large:</b> Beyond 5 km of the site (regional)
<b>Duration</b> Predicts the lifetime of the impact.	<b>Temporary:</b> < 1 year (not including construction) <b>Short-term:</b> 1 – 5 years <b>Medium term:</b> 5 – 15 years <b>Long-term:</b> >15 years (Impact will stop after the operational or running life of the activity, either due to natural course or by human interference) <b>Permanent:</b> Impact will be where mitigation or moderation by natural course or by human interference will not occur in a particular means or in a particular time period that the impact can be considered temporary
<b>Intensity</b> Describe the magnitude (scale/size) of the Impact	<b>Zero:</b> Social and/or natural functions and/ or processes remain unaltered <b>Very low:</b> Affects the environment in such a way that natural and/or social functions/processes are not affected <b>Low:</b> Natural and/or social functions/processes are slightly altered <b>Medium:</b> Natural and/or social functions/processes are notably altered in a modified way <b>High:</b> Natural and/or social functions/processes are severely altered and may temporarily or permanently cease

CRITERIA	CATEGORY
<p><b>Probability of occurrence</b> Describe the probability of the Impact <u>actually</u> occurring</p>	<p><b>Improbable:</b> Not at all likely  <b>Probable:</b> Distinctive possibility  <b>Highly probable:</b> Most likely to happen  <b>Definite:</b> Impact will occur regardless of any prevention measures</p>
<p><b>Degree of Confidence in predictions</b> State the degree of confidence in predictions based on availability of information and specialist knowledge</p>	<p><b>Unsure/Low:</b> Little confidence regarding information available (&lt;40%)  <b>Probable/Med:</b> Moderate confidence regarding information available (40-80%)  <b>Definite/High:</b> Great confidence regarding information available (&gt;80%)</p>
<p><b>Significance Rating</b> The impact on each component is determined by a combination of the above criteria.</p>	<p><b>Neutral:</b> A potential concern which was found to have no impact when evaluated  <b>Very low:</b> Impacts will be site specific and temporary with no mitigation necessary.  <b>Low:</b> The impacts will have a minor influence on the proposed development and/or environment. These impacts require some thought to adjustment of the project design where achievable, or alternative mitigation measures  <b>Medium:</b> Impacts will be experienced in the local and surrounding areas for the life span of the development and may result in long term changes. The impact can be lessened or improved by an amendment in the project design or implementation of effective mitigation measures.  <b>High:</b> Impacts have a high magnitude and will be experienced regionally for at least the life span of the development, or will be irreversible. The impacts could have the no-go proposition on portions of the development in spite of any mitigation measures that could be implemented.</p>

\*NOTE: Where applicable, the magnitude of the impact has to be related to the relevant standard (threshold value specified and source referenced). The magnitude of impact is based on specialist knowledge of that particular field.

For each impact, the EXTENT (spatial scale), MAGNITUDE (size or degree scale) and DURATION (time scale) are described. These criteria are used to ascertain the SIGNIFICANCE of the impact, firstly in the case of no mitigation and then with the most effective mitigation measure(s) in place. The decision as to which combination of alternatives and mitigation measures to apply lies with WT FUEL CENTER as the proponent, and their acceptance and approval ultimately with the relevant environmental authority.

The SIGNIFICANCE of an impact is derived by taking into account the temporal and spatial scales and magnitude. Such significance is also informed by the context of the impact, i.e. the character and identity of the receptor of the impact. The means of arriving at the different significance ratings is explained in the **Table 4**.

## 7.1 MITIGATION MEASURES

There is a hierarchy of actions which can be undertaken to respond to any proposed project or activity. These cover avoidance, minimization and compensation. It is possible and considered sought after to enhance the environment by ensuring that positive gains are included in the proposed activity or project. If negative impacts occur then the hierarchy indicates the following steps.



**Impact avoidance:** This step is most effective when applied at an early stage of project planning. It can be achieved by:

- not undertaking certain projects or elements that could result in adverse impacts;
- avoiding areas that are environmentally sensitive; and
- Putting in place preventative measures to stop adverse impacts from occurring.

**Impact minimization:** This step is usually taken during impact identification and prediction to limit or reduce the degree, extent, magnitude, or duration of adverse impacts. It can be achieved by:

- scaling down or relocating the proposal;
- redesigning elements of the project; and
- taking supplementary measures to manage the impacts

**Impact compensation:** This step is usually applied to remedy unavoidable residual adverse impacts. It can be achieved by:

- rehabilitation of the affected site or environment, for example, by habitat enhancement;
- restoration of the affected site or environment to its previous state or better; and
- Replacement of the same resource values at another location (off-set), for example, by wetland engineering to provide an equivalent area to that lost to drainage or infill.

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## 8 ASSESSMENT OF POTENTIAL IMPACTS AND POSSIBLE MITIGATION MEASURES

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*This chapter is the focus of the EA Report. It contains a detailed assessment of the operational (or long term) impacts as well as the construction phase (or short term) impacts on the biophysical and socio-economic environments using the methodology described in Chapter 7. A summary table of the assessment of all the potential impacts is also provided.*

### 8.1 INTRODUCTION

This Chapter describes the potential impacts on the biophysical and socio-economic environments, which may occur due to the proposed activities described in Chapter 4. These include potential impacts, which may arise during the operation of the proposed development (i.e. long-term impacts) as well as the potential construction related impacts (i.e. short to medium term). The assessment of potential impacts will help to inform and confirm the selection of the truck port to be submitted to MEFT: DEA for consideration. In turn, MEFT: DEA's decision on the environmental acceptability of the proposed project and the setting of conditions of authorisation (should the project be authorised) will be informed by this chapter, amongst other information, contained in this EA Report.

#### 8.1.1 Construction Phase Impacts

The construction phase impacts are those impacts on the biophysical and socio-economic environment that would occur during the construction phase of the proposed bulk services infrastructure. They are inherently temporary in duration, but may have longer lasting effects.

Given that the site already has existing structures that proponent intends to utilise, there will be no construction activities (including excavations) taking place. However, a **rehabilitation process** will be undertaken to clean up and remove unwanted weeds (grass) from the site to allow for the operation of the truck port to commence.

Significant vegetation found on site such as the big trees, will not be removed but to be kept and maintained as part of the layout design of the development.

#### 8.1.2 Environmental Management Plan

An Environmental Management Plan (EMP) is contained in **Annexure A** of this report. The purpose of the EMP is to outline the type and range of mitigation measures that should be implemented during the construction and decommissioning phases of the project to ensure that negative impacts associated.

#### 8.1.3 Operational Phase Impacts

The operational phase impacts are those impacts on the biophysical and socio-economic environment that would occur during the operational phase of the proposed project and are inherently long-term in duration. The operational phase impacts could potentially include:

- Impact on surface and ground water resources;
- Impact of visual and sense of place;
- Impact of increased vehicular traffic;
- Impact of noise during operation;
- Impact of dust during operation (unpaved area);

- Impact of waste generation;
- Impact on Health and Safety;
- Impact on existing service infrastructure;
- Impact of hazardous substances (pollution);
- Social impacts.

Each of these impacts is assessed in detail in the section below. The baseline and potential impacts that could result from the proposed development are described and assessed with potential mitigation measures recommended. Finally, comment is provided on the potential cumulative impacts which could result should this development, and others like it in the area, be approved.

## 8.2 OPERATIONAL PHASE IMPACTS

During the operational phase, a large area of land will change to make way for the proposed development of the truck port. The operational phase activities and impacts will primarily consist out of those carried out at the truck port.

### 8.2.1 Water Pollution Impacts

#### a) Impact Assessment

During the operational phase of the truck port, surface and stormwater could also be contaminated as a result of minor spillages during the tanker refuelling of above and underground storage tanks, fuel dispensing to vehicles on the forecourt of the truck port and washing of these areas. Should these contaminants not be trapped on site, it could end up in downstream watercourses with associated impacts on water users and biota. It is therefore essential to ensure that stormwater from the site is controlled.

The impact of the proposed development is deemed to result in a **Medium-Low (negative)** impact for the proposed development especially in the rainy season. However, by implementing the below proposed mitigation measures it would be possible to reduce the impact to a **Low (negative)**.

#### b) Mitigation Measures

- A no-go buffer area of at least 50 m should be allocated to any water bodies in the area.
- No dumping of waste products of any kind in or in close proximity to the surface water bodies.
- Contaminated runoff from the truck port should be prevented from entering the surface water bodies.
- Ensure that surface water accumulating on-site are channelled and captured through a proper storm water management system to be treated in an appropriate manner before disposal into the environment.
- Re-use of treated waste water should be considered wherever possible to reduce the consumption of potable water – *wherever possible*.

### 8.2.2 Visual and Sense of Place Impacts

#### a) Description of the Environment

The proposed development is visually very prominent from the Mpacha B8 main road. The proposed development will only entail the operation of a truck port. The truck port activities



will be visible from the surrounding areas. The size and design of the truck port will be that of a general truck port with a workshop for mechanical maintenance services.

The truck port is also expected to be clearly visible from surrounding areas, which is the purpose of a truck port development being located adjacent to a main road in order to attract customers those who seek mechanical repairs or services for their vehicles or trucks. Existing vegetation on-site holds very little potential to screen the development from the surrounding area.

Very little mitigations exist with regards to reduce the expected visual impact at this stage. Given the flat topography and size of the development, the impact on the sense of place is expected to be **Low (negative)**. With proper mitigation measures the significance is expected to be **Medium-Low (negative)**, to change over time as the area becomes more developed.

b) Mitigation Measures

It is recommended that more 'green' technologies be implemented within the architectural designs and building materials of the development where possible in order to minimise the visual prominence of such a development within the more natural surrounding landscape. Visual pollutants can further be prevented through mitigations (i.e. keep existing trees, introduce tall indigenous trees; keep structures unpainted where possible).

### 8.2.3 Traffic Impacts

a) Impact Assessment

Due to the size of the development a number of cargo transportation will be required to deliver operational materials such as fuel for the truck port. Not only will the increase in traffic result in associated noise impacts, it will also impact on the existing and/or access roads in the area. This is however standard impacts associated with truck port developments.

The impact of increased traffic is however deemed to result in a **Low (negative)** impact for Katima Mulilo and it would be possible to reduce the impact to a **Very-Low (negative)**.

b) Mitigation Measures

The following mitigation measures are recommended:

- Ensure that road junctions have good sightlines.
- Adhere to the speed limit.
- Implement traffic control measures where necessary.

### 8.2.4 Noise Impacts

a) Impact Assessment

The operation of various types of activities within the proposed development will result in associated noise impacts. *It should be noted that no specialist was appointed to assess noise impacts as this was deemed not to be a significance issue and generic mitigation measures will be adequate to manage impacts.*

Operational noises associated with the proposed development is expected to be at the level of normal noise generated from a truck port.

The impact of noise is deemed to result in a **Low (negative)** impact and with proper mitigation measures it would be possible to reduce the impact to a **Very-Low (negative)** for Katima Mulilo.

#### b) Mitigation Measures

The following mitigation measures are recommended:

- Continuous monitoring of noise levels should be conducted to make sure the noise levels does not exceed acceptable limits.
- The design and materials use as well as the layout of the development should be such to minimise noises.

*No activity having a potential noise impact should be allowed after 18:00 if possible.* By applying a series of the mitigation measures as proposed for general development as well as these above it is believed that any potential nuisance can be significantly reduced.

### 8.2.5 Dust and Emission Impacts

#### a) Impact Assessment

The project area will only remain paved at the section or area where the tanks are installed and trucks will be filling up. However, the rest of the site will remain unpaved.

The air quality in the area is considered to be fairly good. This is based on the impact that there are currently no activities taking place in the area which are likely to have on the air quality.

Emissions associated with the proposed development will mostly be generated by vehicle movement. Because the impact is unknown, the entire development needs to be controlled and managed as required by the Public Health Act (Act No. 36 of 1919) and Atmospheric Pollution Prevention Ordinance (No. 11 of 1976).

The impact of dust and emissions is deemed to result in a **Low (negative)** impact and with proper mitigation measures it would be possible to reduce the impact to a **Very-Low (negative)** for Katima Mulilo.

### 8.2.6 Existing Service Infrastructure Impacts

The proposed development will make use of added infrastructure specifically regarding electricity, water and sewer. This additional demand is expected to be **Medium-Low (negative)**.

It is recommended that alternative and renewable source of energy be explored and introduced into the proposed development to reduce dependency on the grid. Solar geysers and panels should be introduced to provide for general lighting and heating of water and the workshop. Other 'green' technologies to reduce the proposed development's dependence should be explored where possible. Water saving mechanisms should be incorporated within the proposed development's design and plans in order to further reduce water demands.

By applying a series of the mitigation measures as proposed for general developments it is believed that any potential nuisance can be significantly reduced.

### 8.2.7 Hazardous Substances Impacts

The storage and handling of a variety of chemicals to be stored on site especially diesel, petrol and oil in regards to the truck port must be properly regulated. All chemicals and other hazardous substances must be stored and maintained in accordance with the Hazardous Substances Ordinance (No. 14 of 1974), with all relevant licences and permits to be obtained where applicable. All special regulations and laws pertaining to the management of a truck port must be adhered to.

All fuel storage and handling facilities in Namibia must also comply with strict safety distances as prescribed by SANS 10089. SANS 10089 is adopted by the Ministry of Mines and Energy as the national standard.

Given the potential harm to human health during handling and use of any of hazardous substances it is essential that all staff be trained with regards to the proper handling of these substances as well as First Aid in the case of spillage or intoxication. Storage areas for all substances should be bunded and capable to hold 120% of the total volume of a given substance stored on site.

Underground fuel tankers should be stored in proper containers and include appropriate risk control measures in the case of leakages or pollution. Specific safety features and protocols should be implemented in the case of a **fire or explosion**. Proper licensed and updated firefighting equipment should be installed and easily implemented. It must further be assured that sufficient water and sand is available for firefighting purposes.

### 8.2.8 Waste Generation

#### a) Impact Assessment

Waste is expected to be generated from the proposed development of the truck port. Nonetheless, waste generated from the development will be removed and disposed off at an authorised landfill site in Katima Mulilo by WT FUEL CENTER or the developer's Waste Removal Contractors. With an increase in human activity on site, it is likely that an increase in the generation of general waste can be expected. It is unlikely that this increase, coupled with other similar developments in the region, will significantly affect the ability of the town's local authority (Katima Mulilo Town Council) to handle and dispose of waste in a responsible manner.

Care should, however, be taken to ensure that the waste generated on site does not become a litter issue, since there is potential for that scenario to develop if not managed correctly and adequately.

#### b) Mitigation Measures

The following mitigation measure should be implemented in order to avoid rubbish being blown away by wind.

- It is therefore recommended that the Katima Mulilo Town Council should provide the truck port with sufficient waste skips. These waste skips should be removed on a weekly basis.

### 8.2.9 Safety and Health Impacts

A limited demand of local construction workers during the construction phase of the proposed development are envisaged with most workers to be contracted from Katima Mulilo Town. Construction projects in a developing-world context has shown that, where construction workers have the opportunity to interact with local community, a significant risk is created for the development of social conditions and behaviours that contribute to the spread of HIV and AIDS. This is not deemed to have a high impact due to the small scale of the proposed development.

The proposed development is deemed to result in a **Low (negative)** impact on community health and safety during the rehabilitation and operational phase. The project management should however collaborate with Katima Mulilo Town Council and the local authorities (clinic

and police) in order to incorporate a health and safety guideline / plan for the local community and workers prior to the start of the rehabilitation process of the site. With the implementation of such a plan the significance rating can be dropped to **Very Low (negative)** impact.

#### **8.2.10 Socio-Economic Impacts**

The proposed development will result in the direct creation of job opportunities (e.g. the use of local labourers) for the local labour force during the rehabilitation phase of the site. This will also involve transfer of skills and the improvement of the quality of life for families of individuals employed. Indirect job opportunities (industries that provide materials and services for the project) is also expected as a result of the rehabilitation of the proposed development area.

The resultant consumption of fuel and other business (workshop) on the property will contribute to the local economy as well as creating additional employment opportunities in the local area. This will also involve transfer of skills and the improvement of the quality of life for families of individuals employed. Furthermore, the truck port will improve the levels of convenience to residents of areas that are in close proximity to the site who may require mechanical services from the workshop on site.

#### **8.3 CUMULATIVE IMPACTS**

Cumulatively, the proposed development of the truck port is rated as **high (positive)** for all developments. The cumulative impact of the proposed development in regards to the degradation of the vacant fairly-disturbed project area (potential pollution of surface and groundwater, degradation of flora and fauna), of which the exact type of activities is unknown are very difficult to rate.

If all proposed mitigation measures are however in place to minimise the overall impacts, then the cumulative impact can be expected to be rated as **Low (negative)** for Katima Mulilo.

#### **8.4 SUMMARY OF POTENTIAL IMPACTS**

A summary of all the potential impacts from the proposed project assessed above is included in **Table 5**. While some difference in magnitude of the potential impacts would result from the proposed alternatives this difference was not considered to be significant for any of the potential impacts. As such, the table below applies to all proposed alternatives.

**Table 4:** Summary of the potential impacts of the proposed development

Description of potential impact	Project alternative	No mitigation / mitigation	Extent	Magnitude	Duration	SIGNIFICANCE	Probability	Confidence	Reversibility	Cumulative impact
<b>CONSTRUCTION (REHABILITATION) PHASE</b>										
1. Biophysical (Flora)	Development	No mitigation	Local	Medium-Low	Short term	Medium	Probable	Certain	Reversible	Low (-)
		Mitigation	Local	Low	Short term	Low	Probable	Certain	Reversible	Very low (-)
	No go	No mitigation	Local	Neutral	Short term	Neutral	Probable	Certain	Reversible	Neutral
		Mitigation	Local	Neutral	Short term	Neutral	Probable	Certain	Reversible	Neutral
2. Biophysical (Fauna)	Development	No mitigation	Local	Low	Short term	Low	Probable	Certain	Reversible	Low (-)
		Mitigation	Local	Very low	Short term	Very low	Probable	Certain	Reversible	Very low (-)
	No go	No mitigation	Local	Neutral	Short term	Neutral	Probable	Certain	Reversible	Neutral
		Mitigation	Local	Neutral	Short term	Neutral	Probable	Certain	Reversible	Neutral
3. Surface water	Development	No mitigation	Local	Medium	Short term	Low	Probable	Certain	Reversible	Low (-)
		Mitigation	Local	Low	Short term	Very low	Probable	Certain	Reversible	Very low (-)
	No go	No mitigation	Local	Neutral	Short term	Neutral	Probable	Certain	Reversible	Neutral
		Mitigation	Local	Neutral	Short term	Neutral	Probable	Certain	Reversible	Neutral
4. Dust impacts	Development	No mitigation	Local	Medium	Short term	Medium-Low	Probable	Certain	Reversible	Medium-Low (-)
		Mitigation	Local	Low	Short term	Low	Probable	Certain	Reversible	Low (-)
	No go	No mitigation	Local	Neutral	Short term	Neutral	Probable	Certain	Reversible	Neutral
		Mitigation	Local	Neutral	Short term	Neutral	Probable	Certain	Reversible	Neutral
5. Combined construction phase impacts	Development	No mitigation	Local	Low	Short term	Low	Probable	Certain	Reversible	Low (-)
		Mitigation	Local	Very low	Short term	Very low	Probable	Certain	Reversible	Very low (-)
	No go	No mitigation	Local	Neutral	Short term	Neutral	Probable	Certain	Reversible	Neutral
		Mitigation	Local	Neutral	Short term	Neutral	Probable	Certain	Reversible	Neutral
<b>OPERATIONAL PHASE</b>										
1. Surface Water	Development	No mitigation	Local	Medium-Low	Medium term	Medium	Probable	Certain	Reversible	Medium (-)
		Mitigation	Local	Low	Medium term	Medium-Low	Probable	Certain	Reversible	Medium-Low (-)
	No go	No mitigation	Local	Low	Medium term	Neutral	Probable	Certain	Reversible	Neutral
		Mitigation	Local	Low	Medium term	Neutral	Probable	Certain	Reversible	Neutral
2. Visual & Sense of place	Development	No mitigation	Local	Medium-Low	Medium term	Medium-Low	Probable	Certain	Reversible	Medium-Low (-)
		Mitigation	Local	Low	Medium term	Low	Probable	Certain	Reversible	Low (-)
	No go	No mitigation	Local	Neutral	Medium term	Neutral	Probable	Certain	Reversible	Neutral
		Mitigation	Local	Neutral	Medium term	Neutral	Probable	Certain	Reversible	Neutral
3. Traffic	Development	No mitigation	Local	Low	Medium term	Medium	Probable	Certain	Reversible	Medium (-)
		Mitigation	Local	Very Low	Medium term	Medium-Low	Probable	Certain	Reversible	Medium-Low (-)

Description of potential impact	Project alternative	No mitigation / mitigation	Extent	Magnitude	Duration	SIGNIFICANCE	Probability	Confidence	Reversibility	Cumulative impact
	No go	No mitigation	Local	Neutral	Medium term	Neutral	Probable	Certain	Reversible	Neutral
		Mitigation	Local	Neutral	Medium term	Neutral	Probable	Certain	Reversible	Neutral
4. Noise	Development	No mitigation	Local	Low	Medium term	Medium-Low	Probable	Certain	Reversible	Medium-Low (-)
		Mitigation	Local	Very Low	Medium term	Low	Probable	Certain	Reversible	Low (-)
	No go	No mitigation	Local	Neutral	Medium term	Neutral	Probable	Certain	Reversible	Neutral
		Mitigation	Local	Neutral	Medium term	Neutral	Probable	Certain	Reversible	Neutral
5. Dust & emissions	Development	No mitigation	Local	Low	Medium term	Low	Probable	Certain	Reversible	Low (-)
		Mitigation	Local	Very Low	Medium term	Very Low	Probable	Certain	Reversible	Very Low (-)
	No go	No mitigation	Local	Neutral	Medium term	Neutral	Probable	Certain	Reversible	Neutral
		Mitigation	Local	Neutral	Medium term	Neutral	Probable	Certain	Reversible	Neutral
6. Existing Services	Development	No mitigation	Local	Low	Medium term	Medium-Low	Probable	Certain	Reversible	Medium-Low (-)
		Mitigation	Local	Very Low	Medium term	Low	Probable	Certain	Reversible	Low (-)
	No go	No mitigation	Local	Neutral	Medium term	Neutral	Probable	Certain	Reversible	Neutral
		Mitigation	Local	Neutral	Medium term	Neutral	Probable	Certain	Reversible	Neutral
7. Hazardous Substances	Development	No mitigation	Local	Medium	Medium term	Medium-High	Probable	Certain	Reversible	Medium-High (-)
		Mitigation	Local	Low	Medium term	Medium-Low	Probable	Certain	Reversible	Medium-Low (-)
	No go	No mitigation	Local	Neutral	Medium term	Neutral	Probable	Certain	Reversible	Neutral
		Mitigation	Local	Neutral	Medium term	Neutral	Probable	Certain	Reversible	Neutral
8. Social impact (municipal services & job provisions)	Development	No mitigation	Local	High	Long term	High (+)	Probable	Probable	Reversible	High (+)
		Mitigation	Local	High	Long term	High (+)	Probable	Probable	Reversible	High (+)
	No go	No mitigation	Local	Neutral	Long term	Neutral	Probable	Probable	Reversible	Neutral
		Mitigation	Local	Neutral	Long term	Neutral	Probable	Probable	Reversible	Neutral
9. Waste Generation	Development	No mitigation	Local	High	Long term	Medium-High	Probable	Probable	Reversible	Medium-High (-)
		Mitigation	Local	High	Long term	Medium-Low	Probable	Probable	Reversible	Medium-Low (-)
	No go	No mitigation	Local	High	Long term	Neutral	Probable	Probable	Reversible	High (+)
		Mitigation	Local	High	Long term	Neutral	Probable	Probable	Reversible	High (+)
10. Existing Services	Development	No mitigation	Local	High	Long term	Medium-Low	Probable	Probable	Reversible	Medium-Low (-)
		Mitigation	Local	High	Long term	Medium-Low	Probable	Probable	Reversible	Medium-Low (-)
	No go	No mitigation	Local	High	Long term	Neutral	Probable	Probable	Reversible	High (+)
		Mitigation	Local	High	Long term	Neutral	Probable	Probable	Reversible	High (+)

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## 9 CONCLUSION

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*The purpose of this Chapter is to briefly summarise and conclude the FEAR and describe the way forward.*

### 9.1 CONSTRUCTION PHASE IMPACTS

With reference to **Table 4**, none of the negative construction phase impacts were deemed to have a high significance impact on the environment. The construction (rehabilitation) impacts were assessed to a **Medium (negative)** significance, without mitigation measures. There will be no construction activities taking place on site however, rehabilitation of the project area will be undertaken to allow for the proposed development to take place.

With the implementation of the recommended mitigation measures in Chapter 8 as well as in the EMP (**Annexure A**), the significance of the construction phase impacts is likely to be reduced to a **Medium-Low (negative)** medium being during the rainy season.

### 9.2 OPERATIONAL PHASE

The most significant impact **high (positive)** is the social impact directly associated with the provision of commercial developments in Katima Mulilo which benefits the residents as well as the town at large. However, if the proposed development is not properly managed, nuisance could be caused to the residents of the town and could cause major environmental and health concerns (**Medium-low negative**).

### 9.3 LEVEL OF CONFIDENCE IN ASSESSMENT

With reference to the information available at the project planning cycle, the confidence in the environmental assessment undertaken is regarded as being acceptable for the decision-making, specifically in terms of the environmental impacts and risks. The Environmental Assessment Practitioner believes that the information contained within this FEAR is adequate to allow MEFT: DEA to be able to determine the environmental acceptability of the proposed project.

### 9.4 MITIGATION MEASURES

With the implementation of the recommended mitigation measures in Chapter 8 as well as in the EMP (**Annexure A**), the significance of the construction and operational phase impacts is likely to be reduced to a **Medium-Low (negative)**. It is further extremely important to include an Environmental Control Officer (ECO) on site during the construction phase of the proposed project to ensure that all the mitigation measures discussed in this report and the EMP are enforced.

It is noted that where appropriate, these mitigation measures and any others identified by MEFT: DEA could be enforced as Conditions of Approval in the Environmental Authorisation, should MEFT: DEA issue a positive Environmental Authorisation.

### 9.5 OPINION WITH RESPECT TO THE ENVIRONMENTAL AUTHORISATION

Regulation 15(j) of the EMA, requires that the EAP include an opinion as to whether the listed activity must be authorised and is the opinion is that it must be authorised, any condition that must be made in respect of that authorisation.

In comparing the proposed project and the 'no-go' alternative, it can be seen that the social benefits associated with the provision of the truck port far outweigh the 'no-go' alternative. In fact, the negative impacts associated with the 'no-go' alternative are in response to the current lack of services.

It is recommended that this project be authorised, as the provision of another truck port is highly important for the community to enhance their daily livelihoods as well as town itself. The significance of the social impact was therefore deemed to be **High (positive)**.

The "no go" alternative on the other hand was deemed to have a **High (negative)** impact, as all the social benefits resulting from the provision of the proposed truck port would not be realised. This proposed project therefore supports the goals to be achieved in Vision 2030, as the proposed truck port will provide the community, with more job opportunities.

Based on the above, the EAP is of the opinion that the proposed development and associated infrastructure be authorised as the benefits outweigh the negative impacts. The significance of negative impacts can be reduced with effective and appropriate mitigation provided in this report and the EMP attached in **Annexure A**. If authorised, the implementation of an EMP should be included as a condition of approval.

## **9.6 WAY FORWARD**

The Draft Environmental Assessment Report (DEAR) was made available for public comment from the **16 July 2020 until 29 July 2020**.

The Final Environmental Assessment Report (FEAR) will now be submitted to MEFT: DEA for consideration and decision making. If MEFT: DEA approves or requests additional information / studies all registered I&APs and stakeholders will be kept informed of progress throughout the assessment process.



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