

DRAFT DOCUMENT

ENVIRONMENTAL MANAGEMENT PLAN (EMP) FOR THE PROPOSED OPERATION OF WORKSHOP HALLS AND RE-ZONING TO RESTRICTED BUSINESS WITH A BULK OF 0.4 OF ATTA RENTALS NEW PORTION 503, BRAKWATER, WINDHHOEK, KHOMAS, REGION.



MARCH 2020

DOCUMENT INFORMATION

Title	Environmental Management Plan (EMP) for the existing ATTA Rentals operation and rezoning from residential to restricted business of bulk 0.4
Activities	<ol style="list-style-type: none">1. Re-zoning from residential to restricted business (Bulk 0.4)<ol style="list-style-type: none">a) Mechanical work and handling of heavy and light vehicles.b) Charcoal storage & packagingc) Hydraulic engineering workshop2. Construction of new access road (800m)3. Refurbishment of septic tanks4. Operation of workshop facility
Location	Portion 503 Brakwater South, Windhoek, Khomas Region
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Executive Summary

This Environmental Management Plan (EMP) provides guidance for an existing Atta Rentals Portion 503 operation and smooth re-zoning transition from residential to restricted business with a bulk of 0.4. Together with other required documents, Atta Rental's EMP will be submitted as attachment to the application for the Environmental Clearance Certificate at the Department of Environmental Affairs.

The incorporation of Brakwater into the Windhoek Municipality boundaries required the owners of the property to align an existing operation to meet City of Windhoek standards and regulations resulting in a subdivision of plot Re 20 and rezoning of portion 305 from residential to restricted business of bulk 0.4. Consequently, this development resulted in portion 503 undergoing structural changes with the proponent having to make adjustments to the current operation. Such include construction of a new access road whilst making provision storm water management and provide improved sewerage and water supply structures in line with City of Windhoek requirements as part of the subdivision and rezoning procedure.

For proper transition, permission to execute the affected changes such as a new access road construction; refurbishing and construction of new septic tank and handling of oil and lubricants by the workshop lessees need to be obtained from the relevant authorities and executed as per the terms of this EMP. Permission and permits to construct a new access road construct new septic tanks should be obtained from the relevant authority.

Generally, the project activities are expected to trigger environmental risks such as water pollution, air pollution, and human wildlife conflict and health and safety concerns. Additionally, road construction and septic tanks refurbishment is expected to cause soil, noise and dust pollution arising from construction machinery. Due to the impacts expected from the proposed development, there is a need to continuously monitor the safety, health, environment and quality aspects arising from the operation and to maintain such throughout the life span of the project.

Due to that the newly Portion 503 has been existence since 1967, the proposed area is has since been disturbed and there will be minimal impact to the environmental as most of the requirements are general building adjustment linked to compliance. However, the required requirements for the subdivision may cause affect the existing environment if not managed properly. This document recommends the appropriate control measure for each risk and, provided the EMP is strictly being adhered to as no significant impacts are to be expected.

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1. INTRODUCTION

1.1 Atta Rentals Portion 503

Since the first submission dated December 18, 2018 to the Ministry of Environment & Tourism, Directorate Environmental Affairs, the subdivision of then Portion 503 of Re20 Brakwater South has been approved and the relevant portion 503 was registered with the Surveyor General's Office. The inclusion of the new portion into the City of Windhoek Urban Planning system is currently underway, as is its registration in the Deed's Office. The premises cover a total area of 5.877 hectares and comprise of staff accommodation, workshop halls, offices and supplementary facilities. The premises are further equipped with water, power supply and ablution facility services. The establishment is co-owned by three family members in partnership as joint heirs of the property and their partnership and business with respect to Plot 503 is named Atta Rentals.

Currently, Atta Rentals has four full time employees responsible for the day to day operation and is being managed by one of the partners, Mr Ernst Jost Herma. Indirectly, the operation facilitates employment for at average twenty individuals employed by the different businesses leasing the halls.

1.1. Project History

Plot 20 Brakwater is a Herma's family property acquired in 1967, located in what is being referred to as Brakwater South. In the late 1980s the family erected workshop halls with offices there, as well as five flats on the most southern portion of the plot. The structure was intended to serve as a `fall back` for comparable workshops for the owners of the then road construction company Herma Brothers (Pty) LTD in Diehl St. No. 1, Windhoek, but were never used as such. In 2005, the plot was subdivided into three plots namely No. 199, 200 and Re20. From 2005 onwards the workshop halls were progressively hired out to third parties, mainly for storage purposes and later for mechanical work. Following the incorporation of Brakwater into the wider Windhoek municipal area in April 2010, Atta Rentals submitted building plans to the City of Windhoek which were approved retrospectively. Further subdivisions of Re20 initiated in 2017 and aimed at separating the workshop halls portion from the remainder came to fruition with approval obtained from Namibia Planning Advisory Board (NAMPAB) on 15 May 2019. The resulting Portion 503 is subject of this effort: The application by the proponent for re-zoning from residential to restricted business with a bulk of 0.4 was on 9 October 2019 approved by the City of Windhoek Urban and Roads Planning Division subject to certain conditions and payment of betterment fees (Delegated Authority Approval) See the figure below.

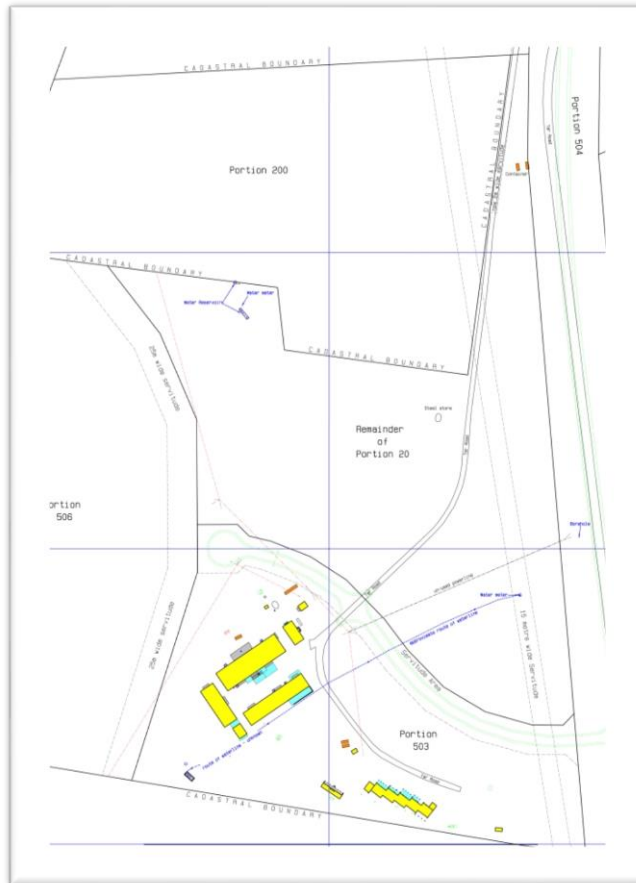


Figure 1-1: Bottom Part – New Plot 503

1.2. What is an EMP?

An EMP is defined as a tool used to mitigate potential environmental risks associated with the proposed project / activity and provides a risk strategy and logical framework throughout the project's life span. Generally, the EMP can also be defined as the tool to prevent / minimize the impacts identified during the EIA process. This EMP develops mitigation measures to manage potential impacts derived from Atta Rentals Portion 503 operation. The EMP further outlines mitigation measures against specific activities, steps, stages or processes of the proposed development and outlines specific roles and responsibilities of critical role-players against which they can be evaluated. Non-compliance with the terms of the EMP is punishable as accorded in the EMA Act 2007.

1.3. Environmental management plan (EMP) Context

This document constitutes the Environmental Management Plan (EMP) for the existing Atta Rentals workshop halls operation. The EMP has been developed in accordance with the provisions of the Environmental Management Act (Act No.7 of 2007), EIA Regulations of 2012 and re-zoning requirements for activities within Windhoek municipal locality.

1.4 EMP Scope

The purpose of the EMP is to identify potential environmental and social impacts associated with the ongoing operation of Atta Rentals and to ensure compliance with the EMA.

The EMP does not only focus, nor is limited to the boundaries of the existing development, but it includes the bigger picture, and serves as the guiding tool to protect the natural, bio-physical and socio-economic environment both in the surrounding area, and beyond the scope of the re-zoning activities. The bigger picture is important, because most impacts such as water, soil pollution, noise pollution, ecological impacts, solid waste, health and safety may not be confined to the boundaries of the operation. The aim of the EMP is to ensure that the activities undertaken during the operation of its workshop halls by Atta Rentals as well as activities accompanying or facilitating the re-zoning transition process are conducted in accordance with the following:

- (i) Environmental Management Act (No. 7 of 2007),
- (ii) EIA regulations of 2012 (GN: 30), and
- (iii) Best environmental practices (benchmarks)
- (iv) Local Authority Bylaws and Other Laws (*as presented in Table 3.1*)

1.5 Objective

The objective of the EMP is to prevent / minimize (where possible) unacceptable and adverse environmental, social or economic impacts that may arise from the proposed development. Overall, the EMP aims to prevent any negative impact/s (real, potential or perceived) that may result from the proposed development.

1.6 Possible adjustments to the EMP

The EMP is an open-ended document and should be considered non-conclusive. In other words, the EMP should allow room for adjustments if new information becomes available at a later stage, potentially resulting in new / additional mitigation measures becoming necessary.

The necessity of possible adjustments to the EMP at a later stage may be attributed to:

- a) Lack of information at the time of drafting the initial EMP.
- b) Evolution or addition of new activities.
- c) Unintended omission of potential impacts during the initial project design and development of the initial EMP.
- d) Development of industry best practice.

This implies that, in-addition to the information contained herein, any other relevant information that may surface during the construction operations, through internal monitoring

or auditing by the Environmental Compliance Officers (ECOs), may be added to the EMP and such changes or inclusions will be binding to the proponent and all its lessees.

1.7 Implementation Framework and Accountability to the EMP

The Institutional Roles for an effective implementation of the EMP are presented below. However, their specific roles and responsibilities are defined and broken down as presented in Sections 5 and 6, respectively.

Table 1-1: Role players, Institutional Framework

ROLE-PLAYER	COMPANY / INSTITUTION	ROLE
Proponent	Atta Rentals	Compliance with the EMP
Environmental Consultant	Gwayela Environmental Solutions	Development of the EMP
Environmental Compliance Officer/s (ECO)	Ministry of Environment & Tourism (MET) – Department of Environmental Affairs (DEA)	Monitoring Compliance with EMP: <ul style="list-style-type: none"> • Un-announced spot checks, • Warning, penalties / fines, license suspension, etc
Public	Interested and affected parties (I&APs) – mainly the immediate neighbours	Report to the ECOs, any activity of environmental concern (e.g. pollution, safety risks, etc)
Contractors/ Subcontractors	Dynamic Consulting Engineers, VKL Namibia Consulting Engineers and KL Construction PTY Ltd and their subcontractors	Compliance with the EMP during design & construction of the new access road and sewerage components
Workshop Tenants	Lessees of the workshop halls and external storage space (if any)	Compliance with the EMP and adherence to the Proponent’s Management Rules

2. PROJECT DESCRIPTION

2.1. Project Location

Atta Rentals is situated 20km from the northern outskirts of Windhoek, on the west side of the B1 road between Windhoek and Okahandja. Plot 503 is located directly west of the Brakwater Service Road (D1491) opposite Bokomo, with its site and coordinates indicated in Figure 2-1 below.

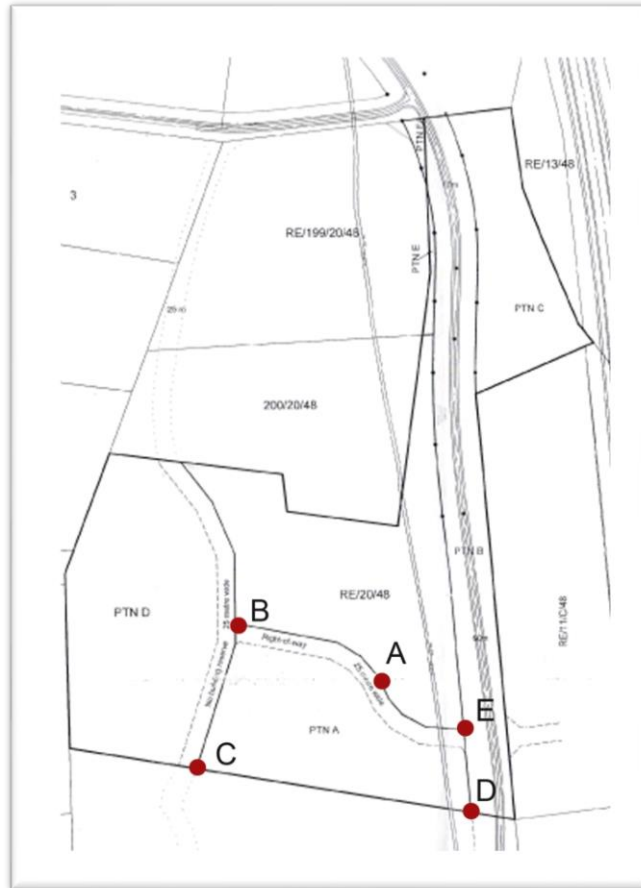


Figure 2-1: Portion 503 Location

Table 2-1: GPS Points/Coordinates

POINTS	LATITUDE	LONGITUDE
A	-22.429689	17.067619
B	-22.429396	17.066103
C	-22.431157	17.065569
D	-22.431750	17.069317
E	-22.430738	17.069588

2.2. Existing Infrastructure

The existing infrastructure comprises of eight halls (workshops) coupled with office space and residential flats as outline in Appendix C -depicting the approximate location and sizes of workshops and flats. The current enclosed infrastructure covers a total area of 2750 square meters. Activities in the various workshops include general mechanical and diesel mechanical work on light and heavy machinery, a road maintenance operation, a vehicle testing operation, storage and packaging of charcoal and vehicle storage. The facility is fitted with one shared *wash bay with oil pit* as well as a mechanical pit. The area around the halls is further being used for the parking of trucks by small and medium transport enterprises. Drivers do not stay on the premises overnight. The premises are further fitted with supporting infrastructure and services such as:

- Power supply from Nampower.
- Water supply from Namwater; including a water storage tank with a holding capacity of 30000 liters to supply both workshops and flats.
- Ablution & shower facilities for each workshop.
- Three existing buried, lined three chamber septic tanks made of brickwork with concrete base and concrete cover (two for the workshop abluion blocks and one for the flats - these are subject to refurbishment as indicated hereunder 2.3.2).
- Private waste collection and delivery to the Brakwater municipal collection point (near Paaltjies`).
- The area of the flats and that of the workshops are enclosed with fences respectively.

A new access from the Brakwater Service Road (D1491) to the workshops and flats as well as the new adjacent portions (portion 506 and new Re20) as per municipal and NAMPAB requirement is currently being constructed.

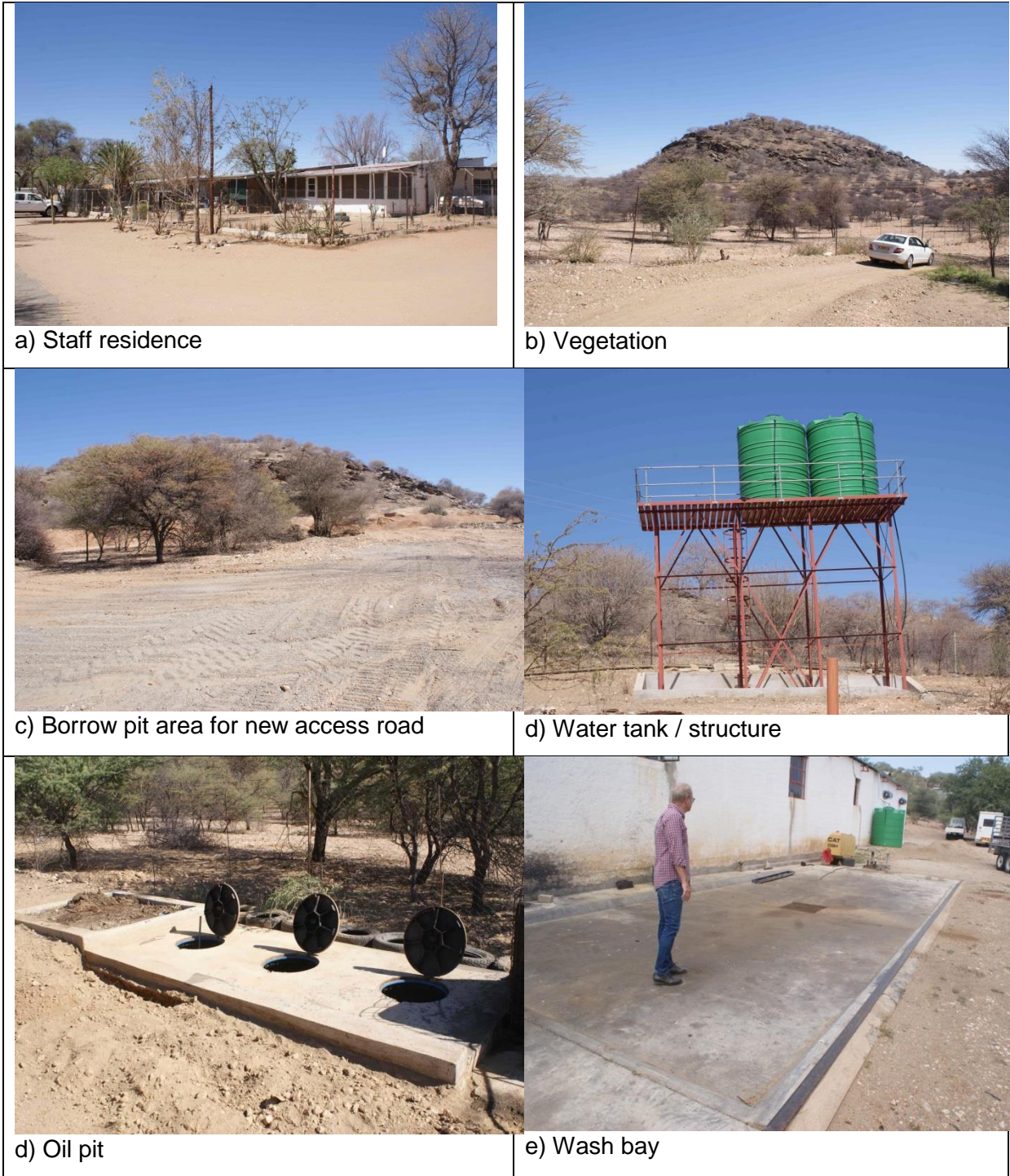


Figure 2-2: Existing structure

2.3. Future Infrastructure

2.3.1. New Access Road

As part of the re-zoning conditions imposed by the Windhoek Municipality, the proponent is required to construct a new private access road from the Brakwater service road (D 1491) to new portions 503 and other two portions (Portion 506 and Re20) owned by the proponent (Appendix 2-2 and Figure 2-3). All formal agreements with the City of Windhoek are in place and the engineer's drawings (VEK-Namibia) have been released by the City of Windhoek engineers for commencement of the work. Gravel for the new road construction will be solely sourced from the proponent's own property. According to the engineers' assessment onsite, the new road will require movement of a volume of 4410m³ G5 and G6 type gravel (cut and fill) of which 3900 cubic meters will be obtained from two of the three identified borrow pits as indicated in the Figure 2-4 below, referenced as BP 1, 2 and 3.

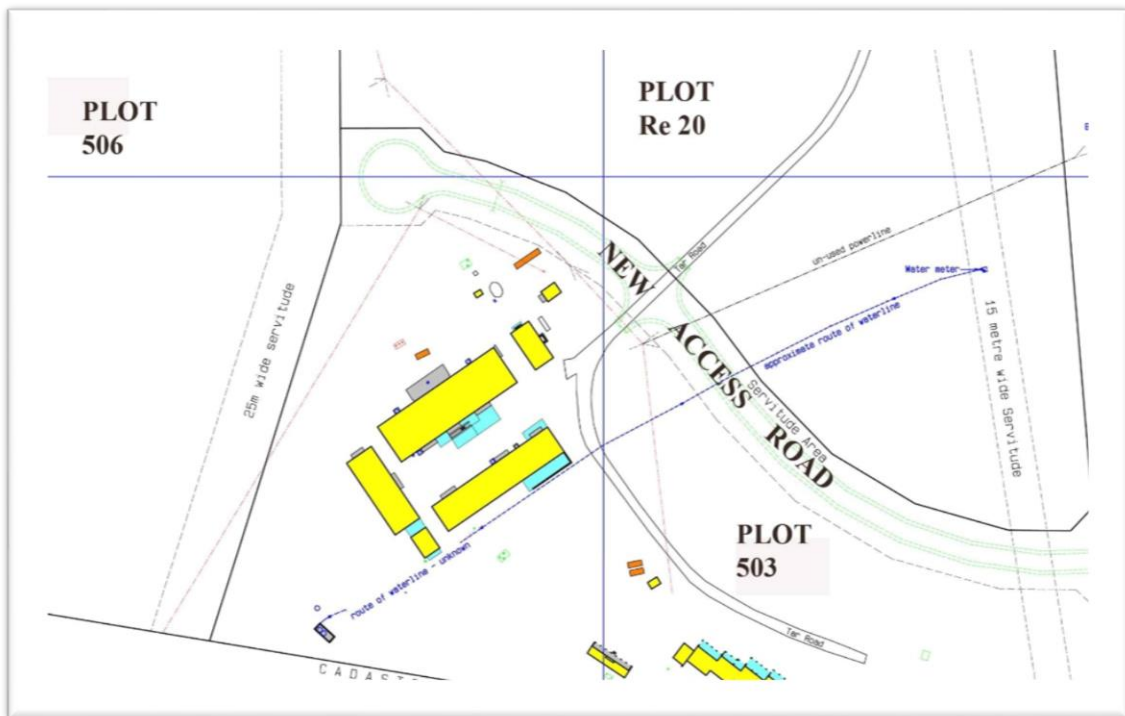


Figure 2-3: Location of the new access road

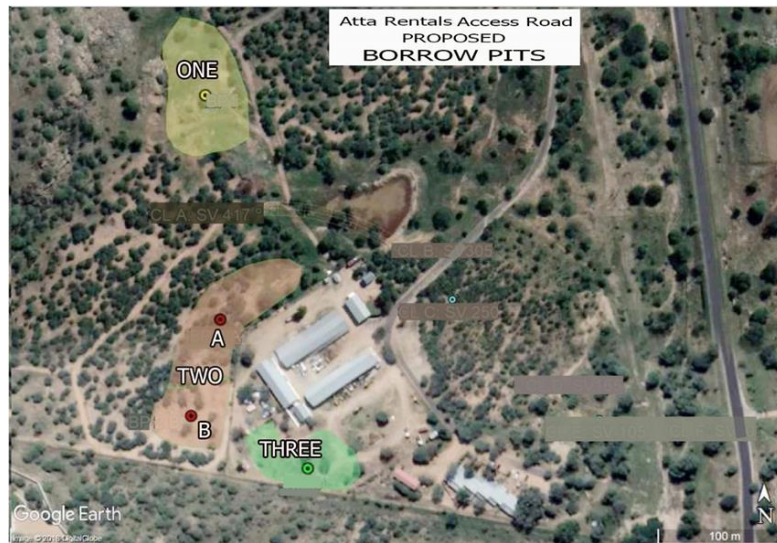


Figure 2-4: Location of borrow-pit points

2.3.2. Septic Tanks Refurbishment

There are currently three septic tanks on plot 503 as referred to Septic Tank Old 1-3 in in Appendix C where as one served the flats and the other two the workshops. The brick and concrete septic tanks were built in the late 1980's, have reached the end of their respective life spans, and will consequently be closed and decommissioned. The new tanks have been designed by and will be constructed under supervision of a certified technical engineer, with the local authority (Windhoek municipality) certifying compliance. All septic tanks will be constructed underground as at the location various location marked in.

2.3.2.1. Staff Accommodation

The existing septic tank will be decommissioned and replaced with a new, prefabricated two chamber PVC model 4ever Plastic ST3 3600septic tank, to be installed just east of the existing staff accommodation (Flats 1-5). The closed system is situated 100 m west from a non-perennial river crossing plot 503 referred as *Septic Tank New 2 in Appendix C* and requires special provisions to avoid spillage. The tank specifications match the required capacity to service at average 15 grown-ups and 5 children (day and night time) as shown in *figure 2-5* below. The tank is built with an internal separation between the solid particles and the liquids. The solid particles are digested in an anaerobic process while the treated liquid will be released to the environment through the French drain. As precaution, *Typha latifolia* and *Cypererus papyrus* plants will be planted as part of the system to remove ammonium nitrate, total phosphorus other organic microbes from the waste water before it is release to the environment. The PVC tank has a lining and system that prevents spillage. As a precaution, periodic inspections will be conducted and prevent spillage occurrence. In case

of system failure, the septic tank will be emptied by authorized waste removal personnel. A single valve will be installed at Ventilator outlet to minimize odor which may be a nuisance to the residents



Figure 2-5: Residential sewage system

2.3.2.1. Workshop

Both existing septic tanks at the workshops, one south (tank 1) and one North West (tank 2) will be closed and decommissioned. Sewer currently treated at tank 2 will be rerouted east of Halls D1 and D2 in northern direction and hence in eastern direction to the main new sewerage tank adjacent to the to-be-decommissioned tank 2. The new three chambers lined septic tank (concrete and bricks) will be constructed just east of the old tank 2, with a 9 meter (L) x 1.5 (D) x 1 m (W) French drain in northern direction. The new structure will have a holding capacity of 13.5 cubic meters and serve a contingent at average of 24 daytime users and 4 day and night time users (mainly security personnel).

2.4. Receiving Environment

2.4.1. Climate

Brakwater forms part of Windhoek's climatic zone and is characterized by semi-arid highland savannah and by subtropical stepper (low latitude dry) with a subtropical thorn woodland biome. Brakwater receives an average rainfall of 300-350 millimetres per annum, which is moderately higher than other places in the Khomas region. Average temperatures prevailing range from between 30-32 °C (maximum) to 4-6 °C (minimum). December is the hottest

whilst July is the coldest month. Windhoek predominantly experiences the south eastern wind with relative humidity ranging between 10-80%.

2.4.2. Fauna

The area around the proposed site provides habitat for reptiles, mammals, amphibians and avifauna commonly found in other areas within the Khomas region. The table below summarizes the endemic species which were identified during the assessment.

Table 2-2: Endemic species found on Site

Group	Observed	Protected Species/Comment
Reptiles	grass snakes, zebra snakes puff adders, Mehelya vernayi, Psammophis jallae tortoises (Stigmochelys pardalis and Psammobates oculiferus)	tortoise are of greatest concern because they are often consumed by people.
Amphibian	11 species are expected to prevail, particularly Pyxicephalus adspersus	None observed during assessment
Mammals	baboons, kudus, springboks, warthogs and small animals such as squirrels and rabbits	eight springbok were imported on neighbouring plot Re 20
Avifauna	230 species of birds endemic to the area around Brakwater.	Pternistis hartlaubi (Hartlaub's Spurfowl) Tockus monteiri (Monteiro's Hornbill) Tockus damarensis (Damara Hornbil) Phoeniculus damarensis (Violet Wood-Hoopoe) Poicephalus rueppellii (Rüppell's Parrot) Agapornis roseicollis (Rosy-faced Lovebird) Eupodotis rueppellii (Rüppell's Korhaan) Lanioturdus torquatus (White-tailed Shrike) Parus carpi (Carp's Tit) Achaetps pycnopygius (Rockrunner)

2.4.3. Flora

Brakwater is dominated by highlands savannah vegetation hosting a number of Acacia species and numerous perennial thorn trees species in the valleys and shrubs and grass on the steep slopes. According to Giess (1971), highland savanna vegetation type is characterised by trees such as Combretum apiculatum and Acacia species (e.g. Acacia reficiens, Acacia. hereroensis, and Acacia. erubenscens). Vegetation near and around the project area is further dominated by climax grasses such as Anthephora pubescens, Brachiaria nigropedata, Digitaria eriantha.

2.4.4. Surface Hydrology

There is no significant surface water zone around or nearby the project area. However, a non-perennial dry river stream passes at a 300m radius east of the workshops. The proposed project will have little or no significant impact on general area hydrological drainage, the greywater released from the French drain will be treated first and will dry up before it reaches the water stream. For precautionary purposes, the proponent has made provision for a drift construction to allow for water flow during rainy season and to prevent flooding.

2.4.5. Geology and Pedology

The area around the existing development is underlain by pre-cambrian aged meta-sedimentary strata of the Kuiseb Formation of the Damara Sequence. The Kuiseb Formation comprises succession of mica schist with a thickness of 6000m, graphitic schist, marble and quartzite. The main rock type is biotite schist, with minor strata of micaceous quartzite, feldspathic schist and amphibole schist (Labuschagne, 2004, and Mendelsohn, et al, 2002). The soil cover in the study area is largely shallow and has been derived from the underlying lithologies and is classified as 'leptosol' (Mendelsohn, et al 2002). Along the larger drainages, such as the ephemeral Gammas and Aretaragas rivers, alluvial deposits have developed.

2.4.6. Underground Water

Brakwater means brackish water and the area is well-known for its salty underground water. Thus in the Brakwater area, boreholes in the fractures Kuiseb Schist have low yield and which is generally saline. The Kuiseb Formation schist is recharged through leakage from saturated alluvium or directly from the dam and is therefore also presumably polluted in the area (Humphrey, 2010). The area does not fall within or interfere with the current Windhoek aquifer (South of Windhoek) and forms part of the brittle formation quartzite.

3. COMPLIANCE AND LEGAL FRAMEWORK

This chapter outlines the regulatory framework applicable to the proposed project. Table 2 provides an overview of applicable policies, plans and strategies and Table 3.1 provides a list of applicable national legislation.

3.1. Compliance to the EMP

This EMP is binding to the proponent and to all lessees engaged as part of the operation of Atta Rentals (e.g. the workshop halls tenants). This implies that each and every entity that may have any kind of engagement or involvement in / with the activities of the operation of Atta Rentals should comply with this EMP throughout the project lifespan. Non-compliance may have serious consequences e.g result in a withdrawal of clearance certificate by the ministry of Environment and Tourism or/and fines levied by the Windhoek Municipality.

Section 27 of the Environmental Management Act 2007 (Act No. 7 of 2007) (EMA) provides a list of activities that may not be undertaken without an Environmental Clearance Certificate (ECC) (herein referred to as: listed activities). The proposed rezoning of Atta Rentals plot 503 will trigger activities listed in section 27.

3.2. EMP Requirements

Table 3-1: EMP Requirements as outlined in Section 8 of the EIA Regulations

Listed Activity	Regulation (Activity Description)	Relevance to the Proposed activity
Environmental Management Act (No.7 of 2007)	The EMP should conform to the provisions of the Environmental Management Act (EMA), Act No. 7 of 2007 and EIA regulations of 2012 (Government Notice: 30). The EIA Regulations defines a ' <i>Management Plan</i> ' as: <i>"...a plan that describes how activities that may have significant impacts on the environment are to be mitigated controlled and monitored"</i>	Section 27 of the Environmental Management Act 2007 (Act No. 7 of 2007) (EMA) provides a list of activities that may not be undertaken without an Environmental Clearance Certificate (ECC) (herein referred to as: listed activities).
Urban and Regional Planning Act 5 of 2018	To make provision for the preparation and carrying out of town planning schemes and for matters incidental thereto and any related rezoning activities	Rezoning portion 503 from residential to restricted Business with bulk of 0.4
Environmental Assessment Policy (1995)	Promotes Sustainable development and Environmental Conservation emphasize the importance of environmental assessments as a key tool towards environmental sustainability	Environmental protection
Water Resources Management Act 2004 (Act No. 24 of 2004)	Protection, conservation, and sustainable use of water resources	Water conservation / safeguarding and usage of water sparingly
Water Resources Management Act, 2013 (No. 11 of 2013)	Provides a framework for managing water resources based on the principles of integrated water resource management.	Section 44 stipulates the requirements for a licence to be held for water abstraction.

	It provides for the management, protection, development, use and conservation of water resource	Section 68 makes provisions for prevention of water pollution.
Soil Conservation, 1969 (Act 76 of 1969) and the Soil Conservation Amendment Act (Act 38 of 1971)	Makes provision for the prevention and control of soil erosion	Monitor and apply the soil conservation mechanisms
Forest Act 12 of 2001 Forest Act Regulations 2015	To provide for the protection of the environment and the control and management of forest. Relevant sections: – Approval required for the clearance of vegetation on more than 15 hectares (Section 23, subsection 1 (b)). – Tree species and any vegetation within 100m from a watercourse may not be removed without a permit (Section 22, subsection 1 (b))	Permit not required
Public & Environmental Health Act (Act No. 1 of 2015)	Advocates for Public Health and safety	Protective clothing and general health regulations pertaining the project activities
The Occupational Safety and Health Act No. 11 of 2007	Advocates for employee and public safety, health	Protection of employees against occupational hazards arising from during operation of the project
National Heritage Act, No. 27 of 2004.	The Act provides provision of the protection and conservation of places and objects with heritage significance.	Refer to handling procedures presented in Section D of the EMP
Precautionary Approach Principle	The precautionary principle is a global accepted approach,	Precautionary approached to avoid oil

	which states that, when there is a insufficient information about the potential threats / impacts that may arise from the proposed development, precaution (safety) should be applied	spillage, dust management, occupational health and safety issues related to construction of the road and sewage system,
Polluter Pays Principle	This principle ensures that proponents take responsibility of their actions. Hence in cases of pollution, the proponent bears the full responsibility and cost to clean up the environment.	Refers to that the proponent is liable to pay for environmental damages and rehabilitation caused by project as required by the relevant legislation
Human-Wildlife Conflict Policy 2009	Refers to conflict management between wild animals and humans in Namibia	Management of conflict arising between the proponent and the prevalent wildlife during construction and operation.
General Health Regulation GN 121 of 14 October 1969 as amended	Stipulate the minimum requirements and standards and shall be deemed to be in addition to, but not in substitution for, any regulation in force within the district of the local authority, except where such regulation is in conflict or inconsistent with these regulations, or lay down requirements and standards which are lower than those required by these regulations, in which case the provisions of these regulations shall prevail	Refers to the specifications and requirement for constructing and refurbishing a septic tank.

4. ROLES AND RESPONSIBILITIES

This section outlines the roles and responsibilities of the key personnel responsible for the day to day management of activities to ensure effective implementation of the EMP.

4.1. Roles and Responsibilities

The key role-players for project implementation are;

- a) The **Environmental Compliance Officer (ECO)** representing the Ministry of Environment and Tourism (MET), or an appointed independent environmental officer, who is responsible for monitoring and auditing.
- b) **The Proponent:** Owner / Project Manager (**Atta Rentals**)
- c) **The Site Manager (Foreman)** the person responsible for the day-to-day management of the project.

4.1.1. The Environmental Compliance Officer (ECO):

The ECO refers to the party responsible for the environmental monitoring and auditing required to ensure that the provisions of the EMP are complied with. The ECO shall have adequate environmental knowledge to understand and interpret the EMP and pertaining environmental aspects associated with the project. The specific tasks of the ECO are as follows:

- To ensure compliance with the EMP by undertaking monitoring and auditing activities.
- To conduct site inspection prior to the commencement of activities and at reasonable intervals (e.g. every month, quarterly or annually) as required throughout the the project life span.
- Conduct irregular inspections and submit compliance or non-compliance reports to the respective authorities (MET or any other relevant authority).
- Compile progress reports immediately after site inspections, compliance reports, pertaining to any non-compliance incident/s, and a rehabilitation report following the conclusion a specific activity.
- Liaise closely with all key stakeholders i.e. the Site Manager and the Environmental Commissioner.
- Provide guidance on any environmental management issues, incidents or emergencies that may arise throughout the project lifespan.
- Assist in providing recommendations for remedial action in the event of non-compliance.
- Auditing or monitoring activities may involve investigation, as well as structured observation, measurement, and evaluation of environmental data over a period of time.

4.1.2. The Proponent

- The specific responsibilities of The Proponent are as follows:
- Appoint a Site Manager (SM) to oversee the daily onsite activities;
- Liaise closely with the SM and ECO on any environmental management issues, incidents or emergencies;
- Ensure that all activities on and around the site are conducted in accordance with the requirements of the EMP at all times;
- Ensure that all sub-contractors and visitors to the site are conversant with the requirement of the EMP, relevant to their roles on site;
- Develop a **communication strategy** between The Proponent, Site Manager, workers, the ECO and any other relevant stakeholder;
- Develop an **organisational structure** to ensure that:
 - There are clear channels of communication;
 - There is an organisational hierarchy for effective implementation of the EMP; and
 - Conflicting or contradictory instructions are eliminated;
 - All instructions and official communications regarding environmental matters shall follow the organisational structure as determined;
 - The EMP requirements are assigned to specific people / positions with the capacity and experience required for implementation.

4.1.3. The Site Manager:

The Site Manager (SM) shall:

- Ensure that each team recruited to work at the sites adheres to the EMP;
- Ensure that a copy of the EMP is kept on site at all times. It may be requested for by authorities conducting spot checks at any time;
- Ensure that all staff attends induction session before commencement of any work on site and that they are adequately informed of the requirements of the EMP;
- Take special care to prevent irreversible damage to the environment;
- Ensure that activities are within the boundaries of the proposed zones as specified in the site map and boundary markings (visible pegs, tape etc.).

4.2. Instructions

All instructions and official communications regarding environmental matters shall follow the organisational structure as determined by the proponent. Based on the adopted structure, it is essential that responsibilities outlined are assigned to specific parties with adequate capacity and experience required to implement the EMP.

4.3. EMP Implementation Context

Environmental management is not only concerned with the final results of the proponent's operations, but also with how such operations are carried out. Tolerance with respect to environmental matters applies not only to the finished product but also to the standards of the day-to-day operations required to complete the work. The EMP is an important tool and necessary to mitigate / counter negative environmental or social impacts that may arise from the project. Furthermore, in the absence of proper audits and monitoring, it will become ineffective.

5. POTENTIAL IMPACTS AND MITIGATION MEASURES

Impact Themes and Recommended Mitigation Measures

The EMP covers different areas defined hereunder, serving as a quick guide for the recommended EMP remedial actions during the construction and operational stages.

Table 5-1 Impacts arising from the project Activities

TYPE OF IMPACT	DESCRIPTION	PROJECT PHASE
Socio economic	Provides low-rental facilities for businesses including accommodation for employees involved, employment for five staff involved with the maintenance and upkeep of rental facilities.	Project lifetime
Pollution and waste	General waste such as material waste (off cuts), garden waste, concrete rubble and domestic waste.	Project lifecycle
Human wildlife conflict	Wildlife conflict	Construction and operation
Oil spillage	Oil and lubricant spills Waste water management Septic tanks	Construction and operational phase
Flooding	Stormwater management	Road construction
Change in the environment during construction	Underground water Ecology Rehabilitation Soil	Project lifecycle
Health and safety	General safety at work place Ablution facilities Emergency Hygiene/Sanitation	Project lifecycle

SECTION A: SOCIO ECONOMIC

Social Impact	Objectives	Proposed Mitigation Measures	Monitoring Indicator	Responsibility
Working hours	Adhere to the Labour Act No. 11 of 2007	Operate within the prescribed working days and hours as per the Namibian Labour laws and regulations	Verification of working hours against the labour Act	Proponent

SECTION B: POLLUTION CONTROL AND WASTE MANAGEMENT

Environmental / Social Impact	Objective	Proposed Mitigation Measures	Monitoring Indicator	Party Responsible
Oil and sewage spills, pollution	Manage oil spills and leaks from vehicles and machinery; Prevent waste water from seeping in the ground.	<ol style="list-style-type: none"> 1. There shall be an immediate spill response kit on site 2. Ensure that all vehicle and machinery are well serviced and leak inspections are done. 3. Provide drip trays to stationary vehicles and machinery 4. If an oil spill occurs, collect the contaminated soil, store in drums and dispose at appropriate waste disposal site (e.g. Municipal disposal site) - alternatively treat with biosol. 5. Fat traps will be installed for all kitchen outlets to prevent fats combusting or blocking the PVC sewage system. 6. The septic tanks will be properly lined, and all technical and general 	Physical verification and routine monitoring, documentation of incident investigations and corrective action reports.	Proponent, mechanical workshop owners (tenants), Site Foreman or Manager

Environmental / Social Impact	Objective	Proposed Mitigation Measures	Monitoring Indicator	Party Responsible
		<p>health regulations observed to prevent spills from polluting the ground. Potential excess waste water not accommodated by the French drains shall be pumped out and taken to the local waste water treatment facility. See recommended requirements for a septic tank (Section 16 of General health Regulation No.121GHR)</p> <p>7. No septic tank or French drain shall be allowed within 500 m of any private or production borehole.</p> <p>8. In case of malfunctioning, septic tank or French drains, all tanks shall be emptied and sewage shall be disposed at a municipal wastewater treatment facility.</p> <p>9. All onsite sewers, septic tanks shall be inspected for cracks or leaks when empty.</p>		

Environmental / Social Impact	Objective	Proposed Mitigation Measures	Monitoring Indicator	Party Responsible
		10. Septic tanks shall be emptied once a year as recommended by Municipality regulation.		
Solid Waste Management	<ul style="list-style-type: none"> • To manage solid waste, • To prevent littering, pollution, contamination of water and general environmental health hazards 	<ol style="list-style-type: none"> 1. Provide waste bins and skip containers on site as per requirement of the individual businesses in the workshops and the resident tenants 2. Solid waste is collected and disposed of at the satellite dumpsite for Brakwater. 	Scattered waste, littering and any other unsightly waste at the site (eyesore), clean environment status	Proponent – Site Manager

SECTION C: ENVIRONMENT

Aspect	Objective	Action Required	Monitoring Indicator	Party responsible
Ecology	Rangeland Management	<ol style="list-style-type: none"> 1. Endemic vegetation should be taken to the Namibia Botanical Garden (NBG) to be preserved and replanted during rehabilitation. 2. Create a tree database for monitoring. 3. Create a complain register from other land use. 4. Return the area to its normal nature by having minimum impacts on the visual environment. 	Geo-physical monitoring	Proponent
Wildlife	Human Wildlife management	<ol style="list-style-type: none"> 1. Control the traffic flow but implementing speed control limit to prevent running over the animals. 2. Implement warning signs to warn visitors, employees about the presence of wildlife. 3. May provision for corridors for Wildlife during the new road construction. 4. Introduce 30km/h speed limit on the new road 		

Aspect	Objective	Action Required	Monitoring Indicator	Party responsible
Under water pollution	To prevent underground water pollution	<ol style="list-style-type: none"> 1. Ensure that all septic tanks are refurbished, lined to the thickness approved by the municipality and are build according to the Bulk Water and Sewer Reticulation Master Plan 2. The proposed septic tanks are equipped with French drains. 3. Ensure that the workshop is equipped with a functional oil trap to be regularly emptied by a registered handler. 	Inspection reports	Proponent/Site Manager

SECTION D. HERITAGE AND ARCHAEOLOGY

Aspect	Objective	Action Required	Monitoring Indicator	Party responsible
Heritage Resources / artefacts	<ul style="list-style-type: none"> Reduce the impacts associated with earthworks, avoid traffic on heritage resources / artefacts 	<ol style="list-style-type: none"> Heritage remains or artefacts discovered on site shall be reported to the National Museum (+264 61 276800) or the National Forensic Laboratory (+264 61 240461). No artefacts shall be removed or be interfered with prior to authorisation from the Namibian National Heritage Council (NHC) Recovery of heritage remains or artefacts discovered and removal thereof shall be directed by the National Museum. 	Sighting report/s of heritage resources / artefacts	Site Manager

SECTION E. HEALTH AND SAFETY

Aspect	Objective	Action Required	Monitoring Indicator	Party Responsible
General Safety at Work Place	<ul style="list-style-type: none"> Ensure that the safety of workers is not compromised and adhere to the Health and Safety Regulations, Government Notice 156/1997 (GG 1617) 	<ol style="list-style-type: none"> Develop a Health and safety Plan; Train staff/employees on personnel safety and how to handle equipment and machinery; Provide protective gear (helmets, safety straps, first-aid kits etc.); Only qualified personnel shall be allowed to operate special machine/instruments; No employee shall be allowed to be onsite without PPE; Adequate safety signs shall be displayed on site; No unauthorized people will be allowed on site. 	<ul style="list-style-type: none"> Health and safety induction minutes; Adequate protective gear for all staff; Availability of first aid kit(s) on site; Registry of trained personnel on site. 	Site Manager
Ablution	Reduce health risks and environmental pollution	<ol style="list-style-type: none"> Ensure adequate, hygienic (clean) and user-friendly ablution facilities for all staff at all times; Provision of separate male and female toilets. 	Availability, cleanliness and hygienic ablution facilities; Incidents or complaints of waste discharge into the environment	Site Manager

Aspect	Objective	Action Required	Monitoring Indicator	Party Responsible
		3. Inspect ablution facilities regularly; 4. Ensure that the septic tanks are securely lined to prevent sewage from seeping into the ground.	Separate toilet for both male & females; Monitoring reports.	
Dust and Noise	Mitigate dust and noise impacts to both employees and the public	1. Determine both entry and exit medical fitness of each employee; 2. Provide dust masks and ear muffs to all employees operating in a dusty or noisy environment; 3. Use dust suppression system to prevent related accidents and poor visibility caused by construction equipment; 4. Monitoring of both environmental and occupational noise and dust.	Incident reports; Public complains; Employee medical records.	Site Manager
	Dust Management during new access road	5. Skips containing dusty wastes shall be securely covered where possible; 6. Use dust suppression systems to prevent related accidents and poor visibility caused by construction equipment. 7. Erect effective barriers around dusty		

Aspect	Objective	Action Required	Monitoring Indicator	Party Responsible
		activities or site boundaries; 8. Minimize dust generating activities; 9. Use water as dust suppressant where required; 10. Keep stockpiles for the shortest possible time.		
Fire and emergencies	Management of all emergencies resulting from operations	11. Install all firefighting equipment as per building requirement of the Windhoek Municipality; 12. Provide clear and visible signage for all installed fire-fighting equipment; 13. Train the employees in basic firefighting and first aid; 14. Replace damaged and expired equipment promptly.	Physical verification or inspections; Trained employee's registry.	Proponent, Workshop Tenants

6. RECOMMENDATIONS

- (a) The project shall adhere to the limitations set up for restricted business within the boundaries of Windhoek Municipality and abide to the applicable Legislation and By Laws;
- (b) The proponent shall ensure that all its tenants adhere to and comply with both the health and the safety procedures stipulated in the EMP;
- (c) The proponent shall ensure that the EMP is communicated to Atta Rental's employees, tenants of the workshops and their employees. Where necessary ensure that the above fully understand and comply with what is required of them;
- (d) The proponent shall ensure that oil spills, sewage and dust and the use of borrow pits is managed as recommended below.

6.1 Oil Spill Management

Generally oil spills are known for causing severe damages to facilities, employees and the general public (visitors) due to the fact that they increase the chance of slip-and-fall accidents. Oil is highly flammable and may catch fire from a spark or source of heat and can lead to the production of gases. Therefore, it is essential that the Site Manager ensures that:

- a) employees are effectively trained in the remediation of incidental oil spills;
- b) staff members and tenants know how to use the appropriate fire extinguishing tools for oil induced fires;
- c) oil spills are treated properly using chemical disbursement, evaporation, burning or direct recovery methods prior to mixing oil infested sand with surrounding soil;
- d) prior to remediating the spillage, the depth the spill is assessed;
- e) the existing wash street and oil pit are inspected regularly to avoid underground spills and major spills shall be reported to the Ministry of Mines and Energy;
- f) the oil pit is emptied at least once a year by an experienced contractor;
- g) each mechanical workshop is equipped with a spill kit for immediate oil spill response;
- h) all major and minor incidents are recorded including the respective remediate action taken;

6.2 Sewage Construction and Management

The proponent shall seek approval from the City of Windhoek prior to constructing new septic tanks or sewage works and the following criteria shall be met prior to the application.

- The application for the approval of the construction of a septic tank or sewage works shall be submitted, in writing, to the local authority and shall be accompanied by:
 - (a) a block plan of the site where such tank or sewage works is to be installed, drawn to a scale of 20 feet to 1 inch indicating all proposed or existing buildings on the site

and buildings on the adjoining sites within 20 feet of the boundary and showing the proposed position of such tank and of every soakage drain, stoneware soil drain, manhole and inspection chamber to be constructed in conjunction with such tank or sewage works and of every internal sanitary fitting to be installed;

(b) a drawing of a general section through the stoneware soil drain, septic tank or sewage works and soakage drain drawn to a horizontal scale of 20 feet to 1 inch and a vertical scale of 5 feet to 1 inch with figured gradients and depth to such drains;

(c) a plan to a scale of not less than ½ inch to 1 foot of the proposed septic tank or sewage works and every chamber thereof;

(d) in the case where the application is submitted by a person who is not the owner of the land on which the septic tank or sewage works is to be installed, the written consent of the owner; and

- No approval shall be granted for the construction of a septic tank or sewage works and no person shall construct a septic tank or sewage works in a town area or for the purpose of a business or occupation unless the following requirements are complied with in connection with such tank or sewage works:-

(a) (i) The position where such tank or sewage works is to be constructed shall be suitable in relation to the buildings to be served and other buildings in the neighbourhood;

(ii) The soil on the site of installation of such tank or sewage works shall be of sufficient porosity and depth or size and suitably situated for the disposal of the effluent;

(iii) A septic tank or sewage works shall not be installed on land on which there is a water source or underground water which is likely to become polluted.

(b) (i) The capacity of a septic tank shall not be less than 48 cubic feet at liquid overflow level and its depth at the same level shall not be less than 4 feet;

(ii) The minimum capacity prescribed by paragraph (i) shall be increased by 5 cubic feet for each additional person in excess of 8 persons to be served by the same septic tank.

(c) (i) Every septic tank shall be designed properly and shall be constructed of suitably reinforced concrete, having walls and bottom of not less than 6 inches thickness and the internal surface rendered in 3 and 1 cement mortar;

(ii) The cover slab of a septic tank shall be constructed of concrete at least 4 inches in thickness suitable reinforced, wherein shall be provided a manhole with properly sealed cover.

- (d) The inlet and outlet pipes of a septic tank
 - (i) shall be at least 4 inches in diameter and constructed of glazed stoneware and fitted with properly sealed covers for cleaning purposes; and
 - (ii) Shall terminate below the liquid overflow level at a maximum depth of 18 inches below that level.
- (e) The soakage drain from every septic tank shall be constructed with a fall of not less than 1 in 50 or such other depth as may be approved by the local authority.
- (f) (i) A septic tank shall not be constructed within the foundation area of a building and shall be situated at least 10 feet from the nearest point to any foundation.
 - (ii) A soakage drain shall be situated at least 20 feet or such greater distance as may be determined by the local authority, from the nearest point to any foundation.
- No person shall use or allow a septic tank to be used for the disposal of any matter other than sewage from a closet or urinal.
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CONCLUSION

The Environmental Management for the foreseen Atta Rental Portion 503 is a necessary documentation required for the Environmental Clearance Certificate acquisition. It specifies the actions required by the proponent in order to comply with the Environmental Management Act and apply for subdivision for its existing facility in Brakwater South.

Essentially, the aim of the EMP is to ensure legal compliance to prevent environmentally fatal flaws and to acquire an Environmental Clearance Certificate for re-zoning its facility from Residential to Restricted Business. As a result, the EMP recommends mitigation measures in order to ensure that the recommended activities are conducted in a manner that is friendly to the environment and in accordance with the provisions of the Environmental Management Act, EIA regulations and Town Planning Ordinance.

Non-compliance with the EMP is punishable and could lead to an unsuccessful re-zoning application. Specific responsibilities have been assigned to role player's in-order to ensure that the EMP is fully implemented. The key role-players including the proponent, the contractors, tenants and the site foreman as defined under section 4 should:

- **Read** the EMP to ensure that they are fully conversant with provisions of the EMP;
- If need be **request for clarity** from the Environmental Assessment Practitioner (EAP), Environmental Compliance Officer (ECO) or relevant authorities;
- Ensure implementation of the recommended mitigation measures;
- Communicate defaults / challenges to the ECO as soon as possible.

The ECO shall monitor (conduct periodic and unannounced EMP audits) in-order to ensure compliance against the recommended mitigation measures.

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