



Excel Dynamic Solutions (Pty) Ltd

DRAFT ENVIRONMENTAL MANAGEMENT PLAN

for

**THE PROPOSED REFORESTATION ACTIVITIES IN ORUSEU IN THE EPUPA
CONSTITUENCY OF THE KUNENE REGION; NAMIBIA**

ECC Application number:001803

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1 INTRODUCTION

1.1 Project Background

Sadhana Forest Namibia (The Proponent) proposes to establish and operate a land restoration project at the Oruseu Village of the Epupa Constituency in the Kunene Region, through water conservation and planting of indigenous as well as drought-resistant food-bearing trees. The project will also entail the training of local people in land restoration, water conservation, and reforestation. The proposed project site is located about 85km northwest of Opuwo as shown on the locality map in Figure 1 below. The project site will cover about 15 hectares (Ha) of land, which will be marked off by 1,762m boundary fencing.

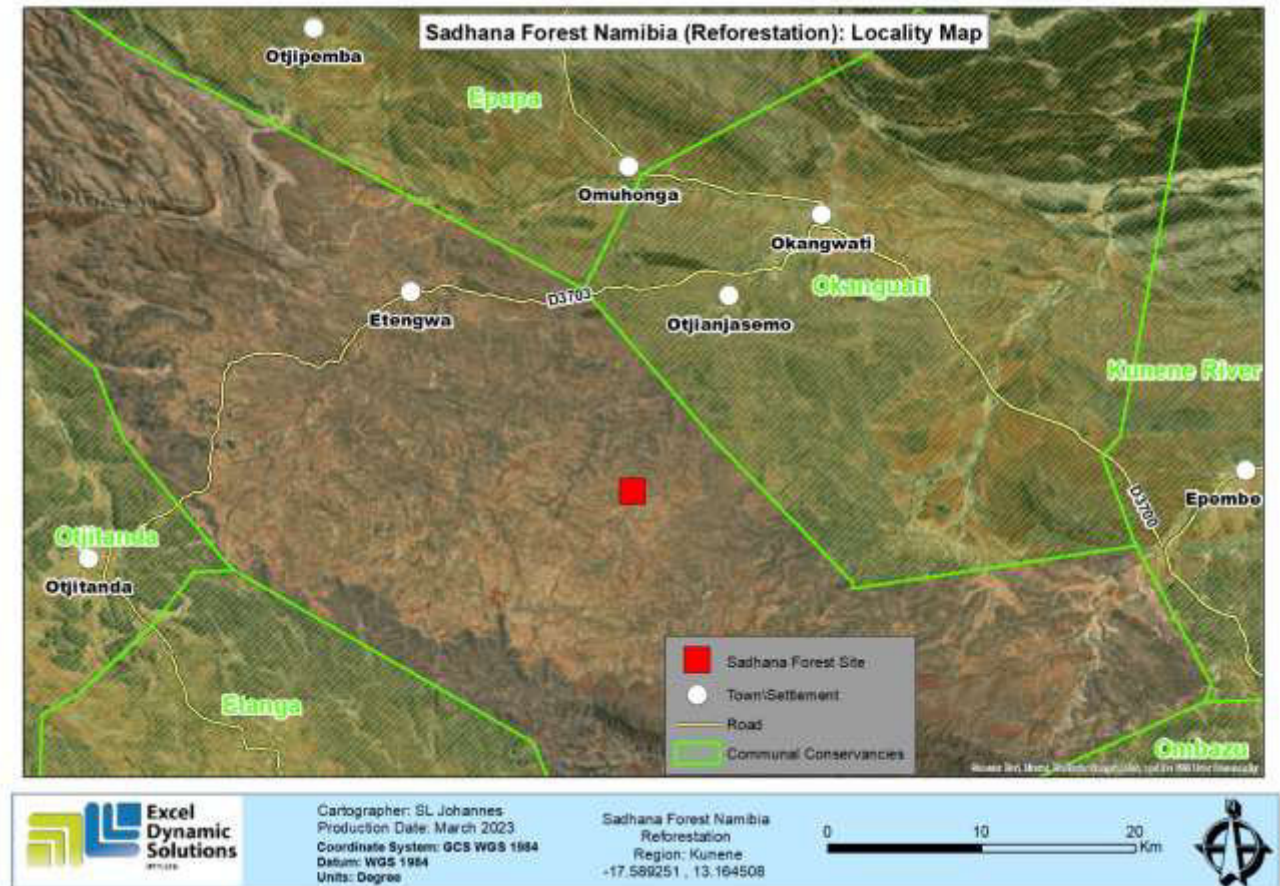


Figure 1 The land use map around the site area

According to Section 27 (1) of the Environmental Management Act (EMA), no. 7 of 2007, and in line with Sections 32-37 of the EMA as gazetted in 2012, the proposed reforestation activities form part of the listed activities that may not be conducted ~~with~~ an EIA being undertaken. The relevant listed activities as per EIA regulations are:

4. Forestry Activities

The clearance of forest areas, deforestation, afforestation, timber harvesting, or any other related activity that requires authorization in terms of the Forest Act, 2001 (Act No. 12 of 2001) or any other law.

Associated listed activities (Groundwater management)

8. Water Resource Development

8.1 The abstraction of ground or surface water for industrial or commercial purposes.

This statutory document has been prepared as per requirement in accordance with Section 8 of the EMA (No. 7 of 2007). The compilation of this EMP is one of the requirements (scope of work) presented to Excel Dynamic Solutions (Pty) Ltd by The Proponent. It is required of the Environmental Consultant to comply with the EMA and provide for the following:

- Prepare an explicit Environmental Management Plan to be used as a guideline to monitor compliance with the recommendations stipulated in the EIA, and to assist in managing and monitoring activities throughout reforestation and maintenance on the site.
- The Environmental Consultant must elucidate in the EMP the roles and responsibilities of the Proponent, the contractors, and any other identified stakeholders.

1.2 Aim of the Draft Environmental Management (EMP)

Regulation 8(j) of the EIA Regulations (2012) requires that a draft Environmental Management Plan (EMP) shall be included as part of the Environmental Assessment (EA). A '**Management Plan**' is defined as:

"...a plan that describes how activities that may have significant environmental effects on the environment is to be mitigated, controlled and monitored."

An EMP is one of the most important outputs of the EA process as it synthesizes all the proposed mitigation and monitoring actions, set to a timeline, and with specific assigned responsibilities. It provides a link between the impacts identified in the EA process and the required mitigation measures

to be implemented during operation. It is important to note that an EMP is a statutory document and a person who contravenes the provisions of this EMP may face imprisonment and/or a fine. This EMP is a living document and can be amended to adapt to address project changes and/or environmental conditions and feedback from compliance monitoring.

The purpose of the EMP is to ensure that the proposed project activities are undertaken in an environmentally friendly and sustainable manner. This can be done through effective implementation of the recommended environmental management and mitigation measures contained in the EMP, for which the aim is to avoid and or minimize adverse identified impacts while maximizing the positive impacts.

1.3 Appointed Environmental Assessment Practitioner

To fulfill the requirements of the EMA and its 2012 EIA Regulations, The Proponent appointed Excel Dynamic Solutions (Pty) Ltd (EDS), an independent consulting company to conduct the required EA process on their (Proponent's) behalf. This draft EMP will be submitted as part of an application for the proposed reforestation activities to the Environmental Commissioner at the Department of Environmental Affairs and Forestry (DEAF), at the Ministry of Environment, Forestry and Tourism (MEFT).

1.4 Environmental Assessment Legal Requirements

The content of the EMP must meet the requirements of Section 8 (j) of the EIA Regulations. The EMP must address the potential environmental impacts of the reforestation activities on the environment throughout the project life cycle. It must also include a system for assessment of the effectiveness of monitoring and management arrangements after project implementation.

The Proponent, therefore, has the responsibility to ensure that the reforestation activities as well as the EA process conform to the principles of the EMA and must ensure that employees act in accordance with such principles. **Table 1** below lists the requirements of an EMP as stipulated by Section 8(e) of the EIA Regulations, primarily on specific approvals and permits that may be required for the activities required of the reforestation site.

Table 1: Applicable legal requirements and permits to the reforestation activities in Oruseu

Legislation / Policy / Guideline: Custodian	Relevant Provisions	Implications for this project
The Constitution of the Republic of Namibia, 1990 as amended: Government of the Republic of Namibia	The Constitution of the Republic of Namibia (1990 as amended) addresses matters relating to environmental protection and sustainable development. Article 91(c) defines the functions of the Ombudsman to include: “...the duty to investigate complaints concerning the over-utilization of living natural resources, the irrational exploitation of non-renewable resources, the degradation and destruction of ecosystems and failure to	By implementing the environmental management plan, the establishment will be conformant to the constitution in terms of environmental management and sustainability. Ecological sustainability will be the main priority for the proposed development.

Legislation / Policy / Guideline: Custodian	Relevant Provisions	Implications for this project
	<p>protect the beauty and character of Namibia...”</p> <p>.Article 95(l) commits the state to actively promoting and maintaining the welfare of the people by adopting policies aimed at the:</p> <p>“...Natural resources situated in the soil and on the subsoil, the internal waters, in the sea, in the continental shelf, and in the exclusive economic zone are property of the State.”</p>	
<p>Nature Conservation Amendment Act, No. 3 of 2017: Ministry of Environment, Forestry and Tourism (MEFT)</p>	<p>The Ordinance provides a legal framework that protects objects/structures such as geological, ethnological, archaeological, and historical within the project area.</p>	<p>The Proponent will be required to enhance the conservation of biodiversity and the maintenance of the ecological integrity of the areas.</p>
<p>Health & Safety Regulations, GN 156/1997(GG1617) : Ministry of Health and Social Services (MHSS)</p>	<p>Makes provision for the health and safety of persons employed or otherwise present in areas. These deal with among other matters; clothing and devices; design, use, operation, supervision, and control of machinery; fencing and guards; and safety measures during repairs and maintenance.</p>	<p>The Proponent should. comply with all these regulations with respect to their employees.</p>
<p>The Regional Councils Act (No. 22 of 1992): Ministry of Urban and Rural Development (MURD)</p>	<p>This Act sets out the conditions under which Regional Councils must be elected and administer each delineated region. From a land use and project planning perspective, their duties include, as described in section 28 “to undertake the planning of the development of the region for which it has been established</p>	<p>The relevant Regional Councils are IAPs and must be consulted during the Environmental Assessment (EA) process. The project site falls under the Kunene Regional Council; therefore, they should be consulted.</p>

Legislation / Policy / Guideline: Custodian	Relevant Provisions	Implications for this project
	with a view to physical, social and economic characteristics, urbanization patterns, natural resources, economic development potential, infrastructure, land utilization pattern and sensitivity of the natural environment.	
Traditional Authority Act (Act No. 25 of 2000): Ministry of Urban and Rural Development (MURD)	The Act also stipulates that Traditional Authorities (TAs) should ensure that natural resources are used on a sustainable basis that conserves the ecosystem. This Act imply that TAs must be fully involved in the planning of land use and development for their area. It is the responsibility of the TA's customary leadership, the Chiefs, to exercise control on behalf of the state and the residents in their designated area.	The reforestation considered under this project is predominantly located in the Epupa Constituency within the communal area. Therefore, the community members should be consulted throughout the Project.
Water Act 54 of 1956: Ministry of Agriculture, Water and Land Reform (MAWLR)	<p>The Water Resources Management Act 11 of 2013 is present without regulations; therefore, the Water Act No 54 of 1956 is still in force:</p> <p>It prohibits the pollution of water and implements the principle that a person disposing of effluent or waste has a duty of care to prevent pollution (S3 (k)).</p> <p>The Act provides for the control and protection of groundwater (S66 (1), (d (ii)).</p> <p>It also regulates liability for clean-up costs after the closure/abandonment of an activity (S3 (l)). (l)).</p>	<p>The protection (both quality and quantity/abstraction) of water resources should be a priority.</p> <p>The permits and license required thereto should be obtained from MAWLR's relevant Departments (these permits include Borehole Drilling Permits, Groundwater Abstraction & Use Permits, and when required, Wastewater / Effluent Discharge Permits).</p>
Water Resources Management Act (No 11 of 2013): Ministry of Agriculture, Water	The Act provides for the management, protection, development, use, and conservation of water resources; and provides for the regulation and monitoring of water services and provides for incidental matters. The objects of this Act are to:	

Legislation / Policy / Guideline: Custodian	Relevant Provisions	Implications for this project
and Land Reform (MAWLR)	Ensure that the water resources of Namibia are managed, developed, used, conserved, and protected in a manner consistent with, or conducive to, the fundamental principles set out in Section 66 - protection of aquifers, Subsection 1 (d) (iii) provide for preventing the contamination of the aquifer and water pollution control (S68).	
National Heritage Act No. 27 of 2004: Ministry of Education, Arts, and Culture (MEAC)	To provide for the protection and conservation of places and objects of heritage significance and the registration of such places and objects; to establish a National Heritage Council; to establish a National Heritage Register; and to provide for incidental matters.	The Proponent should ensure compliance with this act's requirements. The necessary management measures and related permitting requirements must be taken. This is to be done by consulting with the National Heritage Council (NHC) of Namibia. The management measures should be incorporated into the Draft EMP.
The National Monuments Act (No. 28 of 1969): Ministry of Education, Arts, and Culture (MEAC)	The Act enables the proclamation of national monuments and protects archaeological sites.	
Soil Conservation Act (No 76 of 1969): Ministry of Agriculture, Water and Land Reform (MAWLR)	The Act makes provision for the prevention and control of soil erosion and the protection, improvement, and conservation of soil, vegetation, and water supply sources and resources, through directives declared by the Minister.	Duty of care must be applied to soil conservation and management measures must be included in the EMP.
Forestry Act (Act No. 12 of 2001: Ministry of Environment, Forestry and Tourism (MEFT)	The Act provides for the management and use of forests and forest products. Section 22. (1) provides: "Unless otherwise authorized by this Act, or by a licence issued under subsection (3), no person shall on any land which is not part of a surveyed erven of a local authority area as defined in section 1 of	The proponent will apply for the relevant permit under this Act if it becomes necessary.

Legislation / Policy / Guideline: Custodian	Relevant Provisions	Implications for this project
	the Local Authorities Act, 1992 (Act No. 23 of 1992) cut, destroy or remove - (a) vegetation which is on a dune or drifting sand or a gully unless the cutting, destruction or removal is done for the purpose of stabilizing the sand or gully; or (b) any living tree, bush or shrub growing within 100 m of a river, stream or watercourse.”	
Public Health Act (No. 36 of 1919): Ministry of Health and Social Services (MHSS)	Section 119 states that “no person shall cause a nuisance or shall suffer to exist on any land or premises owned or occupied by him or of which he is in charge any nuisance or other condition liable to be injurious or dangerous to health.”	The Proponent and all its employees should ensure compliance with the provisions of these legal instruments.
Health and Safety Regulations GN 156/1997 (GG 1617): Ministry of Health and Social Services (MHSS)	Details various requirements regarding the health and safety of labourers.	
Public and Environmental Health Act No. 1 of 2015: Ministry of Health and Social Services (MHSS)	The Act serves to protect the public from nuisance and states that no person shall cause a nuisance or shall suffer to exist on any land or premises owned or occupied by him or of which he is in charge any nuisance or other condition liable to be injurious or dangerous to health.	The Proponent should ensure that the project infrastructure, vehicles, equipment, and machinery are designed and operated in a way that is safe, or not injurious or dangerous to public health and that the noise and dust emissions which could be considered a nuisance remain at acceptable levels. Public and environmental health should be preserved and remain uncompromised.

Legislation / Policy / Guideline: Custodian	Relevant Provisions	Implications for this project
Atmospheric Pollution Prevention Ordinance (1976): Ministry of Health and Social Services (MHSS)	This ordinance provides for the prevention of air pollution and is affected by the Health Act 21 of 1988. Under this ordinance, the entire area of Namibia, apart from East Caprivi, is proclaimed as a controlled area for section 4(1) (a) of the ordinance.	The proposed project and related activities should be undertaken in such a way that they do not pollute or compromise the surrounding air quality. Mitigation measures should be put in place and implemented on-site.
Hazardous Substance Ordinance, No. 14 of 1974: Ministry of Health and Social Services (MHSS)	The ordinance provides for the control of toxic substances. It covers manufacture, sale, use, disposal, and dumping as well as import and export. Although the environmental aspects are not explicitly stated, the ordinance provides for the importing, storage, and handling.	The Proponent should handle and manage the storage and use of hazardous substances on site so that they do not harm or compromise the site environment
Road Traffic and Transport Act, No. 22 of 1999: Ministry of Works and Transport (Roads Authority of Namibia)	The Act provides for the establishment of the Transportation Commission of Namibia; for the control of traffic on public roads, the licensing of drivers, the registration and licensing of vehicles, the control and regulation of road transport across Namibia's borders; and for matters incidental thereto. Should the Proponent wish to undertake activities involving road transportation or access to existing roads, the relevant permits will be required.	Mitigation measures should be provided for, if the roads and traffic impact cannot be avoided, the relevant permits must be applied for.
Labour Act (No. 6 of 1992): Ministry of Labour, Industrial Relations and Employment Creation (MLIREC)	Ministry of Labour, Industrial Relations and Employment Creation is aimed at ensuring harmonious labour relations through promoting social justice, occupational health and safety, and enhanced labour market services for the benefit of all Namibians. This ministry ensures the effective implementation of the Labour Act No. 6 of 1992.	The Proponent should ensure that the reforestation activities do not compromise the safety and welfare of workers.

1.5 Draft EMP Limitations

This EMP has been drafted with the acknowledgment of the following limitations:

- This EMP has been drafted based on the Environmental Assessment (EA) conducted for Reforestation in Oruseu
- The mitigation measures recommended in this EMP document are based on the risks/impacts in the ESA Report which were identified based on the project description as provided by the Proponent, site investigation, and public input. Should the scope of the proposed project change, the risks/impacts will have to be reassessed and mitigation measures provided accordingly.

2 EMP ROLES AND RESPONSIBILITIES

The Proponent is ultimately responsible for the implementation of the EMP. However, the Proponent may delegate this responsibility at any time, as they deem necessary during the project phases. The roles and responsibilities of all delegates/parties involved in the effective implementation of this EMP are set out below:

2.1 Competent Monitoring Authority: Department of Environmental Affairs and Forestry (DEAF, MEFT)

The DEAF is responsible for enforcing compliance with the EMA, its regulations, and the full implementation of this EMP. The competent authority also reviews biannual reports and grants ECC renewal after 3 years.

2.2 The Proponent or Proponent's Representative (PR)

If the Proponent does not intend to manage all aspects and activities referred to in this EMP, they should assign this responsibility to a suitably qualified individual referred to in this plan as the Proponent's Representative (PR). The PR may be appointed to manage all phases of the project or to manage only the EMP aspects of the project. The PR's responsibilities may include:

- Managing the implementation of this EMP and updating and maintaining it when necessary.
- Management and monitoring of individuals and/ or equipment on-site in terms of compliance with this EMP.
- Issuing fines for contravening EMP provisions.

2.3 Site Manager (as appropriate)

This individual is responsible for ensuring that the reforestation activities of the project are completed on time. The Manager's duties and responsibilities include:

- Ensuring that relevant commitments contained in the EMP Action Plans are adhered to.
- Ensuring that relevant staff is trained in procedures entailed in their duties.
- Maintaining records of all relevant environmental documentation for the project.
- Reviewing the EMP annually and amending the document when necessary.
- Issuing fines to individuals who may be in breach of the EMP provision and if necessary, removing such individuals from the site.
- Coordinating with all relevant interested and affected parties/stakeholders.
- Development and management of schedules for daily activities.

2.4 Environmental Control Officer (ECO)

The Proponent may assign the responsibility of ensuring EMP compliance throughout the project life cycle to a designated member of staff or externally qualified and experienced person, referred to in this EMP as the Environmental Control Officer (ECO). The ECO will have the following responsibilities:

- Management and facilitation of communication between the Proponent, PR, and Interested and Affected Parties (I&APs) regarding this EMP.
- Conducting site inspections (recommended frequency is monthly or weekly as recommended – please refer to Table 3) of all areas with respect to the implementation of this EMP (monitor and audit the implementation of the EMP).
- Advising the PR on the removal of person(s) and/or equipment not complying with the provisions of this EMP.
- Making recommendations to the PR with respect to the issuing of fines for contraventions of the EMP.
- Undertaking an annual review of the EMP and recommending additions and/or changes to this document.

Archaeology: Chance Finds Procedure (CFP) Implementation Roles

The following personnel has been assigned responsibilities as per the Chance Finds procedure (Appendix 1):

- **Operator:** To exercise due caution if archaeological remains are found.

- **Foreman:** To secure the site and advise management timeously.
- **Superintendent:** To determine safe working boundaries and request inspection.
- **Archaeologist:** To inspect, identify, advise management, and recover remains.

The Proponent should assess these commitments in detail and should acknowledge their obligation to the specific management actions detailed in the Tables under the following sections.

3 ENVIRONMENTAL MANAGEMENT & MITIGATION MEASURES

3.1 Management of Key Potential Adverse Environmental Impacts

From the assessment conducted, the following key potential negative impacts have been identified and are summarized below.

- Impact on water resources (groundwater) through over-abstraction to supply the proposed activities onsite.
- Environmental pollution (waste generation/littering)
- Impact on local livestock (restricted movement)
- Risk of veld fires
- Health and safety: improper handling of materials and equipment may cause occupational health hazards.
- Archaeological or cultural heritage impact through uncovering of unknown objects on site (when carrying out earthworks).
- Social Nuisance: local property intrusion & disturbance

3.2 Aim of the Environmental Management Plan Actions

The aim of the management actions of the EMP is to avoid the above-listed potential negative impacts, where possible. Where impacts cannot be avoided, measures are provided to reduce the significance of these impacts.

Management actions recommended for the potential impacts rated in the ESA carried out for the reforestation activities were based on the following project stages (phases):

- Planning and reforestation and site maintenance phases (**Table 2**)

- Monitoring (**Table 3**)

The responsible person(s) should assess these actions in detail and acknowledge their commitment to the specific management actions detailed in the phases given under the following subsections.

3.3 Planning and Reforestation Phase Management Action Plans (Mitigation Plan)

The management action plans recommended for this phase are presented in **Table 2** below.

Table 2: Management and mitigation action plans for the planning and reforestation phases

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Resources	Timeline
PLANNING PHASE						
EMP implementation and training	Lack of EMP awareness and implications thereof	<p>-A Comprehensive Health and Safety Plan for the project activities should be compiled. This will include all the necessary health, safety, and environmental considerations applicable to respective works on sites.</p> <p>An EMP non-compliance penalty system should be implemented on-site.</p> <p>The Proponent should appoint an ECO to be responsible for managing the EMP implementation and monitoring.</p>	<p>-All required Plans and systems are compiled and in place.</p> <p>and Environmental Control Officer (ECO) is appointed</p>	Proponent	EMP Implementation Plans and Systems	Pre-forestation works
Authorizations	Lack of Agreements, Permits/ Licenses	<p>-All the required agreements and licenses or permits should be finalised before commencement of work on the site or as required.</p> <p>-The permits, and agreements referred to herein include:</p>	<p>-Applicable permits and licenses to be obtained from relevant authorities and kept on site for record keeping and future inspections.</p>	Proponent	<p>Proponent</p> <p>Respective authorities and services provider(s)</p>	Prior to Reforestation activities

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Resources	Timeline
		<ul style="list-style-type: none"> ○ Agreement with the traditional authority to commerce with the activity on site. 	-Agreements/permits obtained prior to project commencement,			
Employment	Creation of employment opportunities	-general labour should be sourced locally, in accordance with procedures approved by the relevant authorities. -Preference of local people for employment for jobs should be implemented, Employment of non-residents must be justified.	-Number of locals employed for reforestation activities	Proponent in collaboration with the Site Manager (if necessary)	Record of employees	Pre-project activities and when necessary, throughout

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Resources	Timeline
		-Equal opportunity should be provided for both men and women, when and where possible.				
REFORESTATION PHASE						
EMP implementation and training	Lack of EMP awareness and implications thereof	<p>-EMP training should be provided to all new workers on site.</p> <p>-All site personnel should be aware of necessary health, safety, and environmental considerations applicable to their respective work.</p> <p>-The implementation of this EMP should be monitored.</p> <p>The site should be inspected, and a compliance audit done throughout the project activities.</p>	Compliance monitoring conducted bi-annually and should be recorded.	ECO	<p>Bi-annual reports</p> <p>Records of EMP training conducted.</p>	Throughout the reforestation phase and as required

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Resources	Timeline
Soils	Physical soil/land disturbance and loss of topsoil	<p>-Soils that are not within the intended and targeted footprints of the site should be left undisturbed and soil conservation implemented as far as possible.</p> <p>-Project vehicles and machinery should stick to access routes provided and/or meant for the project operations..</p> <p>-Disturbance of surface soils surface in the vicinity of the project must be minimized to prevent erosion. The footprint of the site area must be kept small as much as possible and existing access roads are to be always utilized to avoid off-road tracks.</p>	<p>No proliferation of informal vehicle tracks.</p> <p>No new erosion gullies.</p>	ECO	<p>Proponent</p> <p>All personnel</p> <p>Complaint's logbook</p>	Throughout the reforestation phase

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Resources	Timeline
Soils and water resources	Soils and water resources pollution	<p>wastewater spill control preventive measures should be in place on-site to manage soil contamination, and prevent contamination from reaching water bodies.</p> <p>-All project employees should be sensitized to the impacts of soil pollution and advised to follow all the policy onsite</p>	<p>No complaints of pollutants on the soils and eventually in the water due to reforestation activities</p> <p>No visible oil spills on the ground or pollution spots.</p>	ECO	<p>Complaint's logbook</p> <p>Waste containers</p>	Throughout reforestation phase

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Resources	Timeline
Biodiversity	Loss of Fauna and Flora	<p><u>Fauna</u></p> <p>- Poaching of wildlife is strictly prohibited</p> <p>-Project workers should refrain from killing or snaring animals that may be found on and around the site.</p>	<p>No disturbance to unmarked areas.</p> <p>No complaints from locals regarding unauthorized vegetation removal or cutting down of trees.</p> <p>No complaints of wildlife hunting by the project personnel.</p>	ECO	<p>Barricading tape (to indicate working areas)</p> <p>Complaint logbook</p>	Throughout the reforestation phase

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Resources	Timeline
		<p>-Access roads (even existing ones) should be utilized appropriately in a manner that disturbs as minimal land areas as possible, thus minimizing faunal habitat destruction.</p> <p>-Breeding sites for faunal species within the site and nearby should not be disturbed.</p> <p>-Environmental awareness of the importance of faunal preservation should be provided to the workers</p> <p>Flora:</p> <p>-The Proponent should avoid unnecessary removal of existing vegetation,</p> <p>-Movement of vehicles must be restricted to existing routes.</p>	<p>No intentional disturbance or destruction of site vegetation and faunal species</p> <p>Visible preservation of onsite vegetation</p>			

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Resources	Timeline
		<p>-Design access roads appropriately in a manner that disturbs minimal land areas as possible.</p> <p>- Protected vegetation found on the site must not be removed.</p>				

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Resources	Timeline
Illegal hunting	Illegal hunting of animals	-No animal hunting is permitted.	Incident reports of illegal hunting of animals by the crew.	ECO	Complaint's logbook	During site set up, and throughout reforestation phase
Land Use	The conflict between land uses and reforestation activities	<p>-Reforestation activities should not in any way hinder the existing landuses around the site but rather promote co-existence throughout the project operations while respecting other land uses.</p> <p>-The Proponent should ensure that their activities comply with the conditions set by the competent, regulatory authorities.</p>	<p>Land access and use permits/authorizations.</p> <p>Compliance with conditions set within operational permits by relevant and affected authorities.</p> <p>Little to no complaints of significant interference from the neighbouring land users</p>	<p>PRO</p> <p>Proponent</p> <p>ECO</p>	<p>Proponent</p> <p>Relevant authorities (MEFT, MLURD, etc.)</p>	Throughout the reforestation phase

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Resources	Timeline
		-Project vehicles should be in a road-worthy condition and serviced regularly to avoid accidents because of mechanical faults of vehicles.				
Local roads	Overuse and maintenance	-The Proponent should consider frequent maintenance of local roads to ensure that the roads are in good condition.	-Visible efforts of maintaining access and community roads by the Proponent	Proponent	Road clearing machinery (bulldozers)	Throughout the reforestation phase, when necessary
Occupational Health and safety	General health and safety associated with project activities in both phases	-As part of their induction, the project workers should be provided with awareness training on the risks of mishandling materials on-site as well as health and safety risks.	Comprehensive health and safety plan for all reforestation activities compiled.	Proponent Site Manager ECO	Occupational Health and Safety Personnel Health and Safety Training First aid kits Trained worker to administer first aid	Throughout the reforestation phase and training is offered as and when required

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Resources	Timeline
		<p>-When working on-site, employees should be properly equipped with adequate personal protective equipment (PPE) such as overalls, gloves, safety boots, dust masks, safety glasses, etc.as necessary.</p> <p>-An emergency preparedness plan should be compiled, and all personnel appropriately trained.</p> <p>-Workers should not be allowed to consume intoxicants prior to and during working hours nor allowed on site when under the influence, as this may lead to safety risks.</p>				

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Resources	Timeline
		-Any parts of the site considered to have safety risks must be equipped with cautionary signs.				
	Accidental fire outbreak	-Portable fire extinguishers should be provided on-site. -Potentially flammable areas and structures must be marked as such with visible signage.	No wildfires were recorded (due to the presence of project operations)	Proponent ECO	Fire extinguishers (1 per vehicle) and 1 per working site	Throughout reforestation phase
Archaeology and heritage	Accidental disturbance and destruction of archaeological or heritage objects and sites	- No-Go-Zones should be put in place where there is evidence of archaeological sites, historical, rockpaintings, cave/rock shelters, or past human dwellings. It can be a demarcation by fencing or avoiding the specific site completely by not working closely or near the known site. -On-site personnel must be sensitized to exercise and recognize "chance finds heritage" in the course of their work. -During the setting up of the site (site fencing and transplanting) it is important to take note and recognize any	Preservation of all artifacts and objects that are discovered on and around the project site No-Go Areas avoided	Proponent ECO Operator	Salvage equipment Archaeologist	As and when required, i.e., prior to site set up, and during reforestation.

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Resources	Timeline
		<p>significant material being unearthed and making the correct judgment on which actions should be taken (refer to CFP Appendix attached to the EMP).</p> <p>-A landscape approach of the site management must consider culture and heritage features in the overall planning of reforestation activities within and beyond the license boundaries.</p> <p>-The Proponent and Contractors should adhere to the provisions of Section 55 of the National Heritage Act in the event significant heritage and cultural features are discovered while conducting reforestation activities.</p> <p>-Show overall commitment and compliance by adapting a “minimalistic or zero damage approach”.</p> <p>-In addition to these recommendations above, there should be a controlled movement of reforestation crews, equipment, setting up of camps, and everyone else involved in the reforestation activities to limit the proliferation of informal pathways, gully erosion, and disturbance to the surface and sub-surface artifacts such as</p>		<p>Foreman</p> <p>Superintended</p> <p>Archaeologist</p>	<p>Flag tapes</p> <p>GPS (site marking)</p>	

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		stone tools and other buried materials, etc.				
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Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Resources	Timeline
Waste management (general waste and sanitation)	Environmental Pollution	<p>-Workers should be sensitized to dispose of waste in a responsible manner.</p> <p>-After each daily works, the Proponent should ensure that there is no waste left on site.</p> <p>-All domestic and general project waste produced on site must be contained until such time it will be transported to designated waste sites.</p> <p>-No waste may be buried or burned on site or anywhere else.</p> <p>-The site should be equipped with separate waste bins for hazardous and general/domestic waste.</p> <p>-Sewage waste should be stored as per the available sewage system supplied on site and regularly disposed of at the nearest treatment facility, as necessary.</p>	<p>No visible litter around the project area</p> <p>Provision of sufficient waste storage containers</p> <p>Waste management awareness</p>	ECO	<p>Waste storage containers</p> <p>Waste disposal permits to municipalities</p> <p>Environmental, Health, and Safety Statements and Policy</p>	Throughout reforestation phase

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Resources	Timeline
		<p>-An emergency plan should be available for any hazardous waste disasters at the site during reforestation (with consideration of air, groundwater, soil, and surface water) .</p>				

4 ENVIRONMENTAL MONITORING AND REPORTING

To minimize the "medium" and uphold "low" significance ratings of impacts identified and assessed in the ESA report, monitoring reports are to be compiled and submitted to the DEAF for archiving on a bi-annual basis (every 6 months throughout the project operations) or as required by the Environmental Commissioner (as per the ECC conditions). This practice will make any considerations for ECC renewal easy as it nears expiration. Therefore, the Proponent should meritoriously monitor and submit the reports to the DEAF for record-keeping purposes and compliance with environmental legislation.

5 CONCLUSION AND RECOMMENDATION

In the event that the Environmental Commissioner considers ECC issuance for reforestation activities in Oruseu, it is recommended that an ECC may be granted, subject to the following recommendations:

- All mitigations provided in this Report and the management action plans in the EMP should be implemented and monitoring conducted as recommended.
- All the necessary environmental and social (occupational health and safety) precautions provided should be adhered to.
- The monitoring of the implementation of mitigation measures should be conducted, applicable impact actions taken, reporting done, and recorded as recommended in the Draft EMP.

The proposed reforestation works have some very few sensitive environmental and social components that may be potentially affected, and therefore potential negative impacts stemming from these activities are acknowledged, assessed, and mitigation measures made thereof. The mitigation measures endorsed in the ESA report and management action plans provided in this draft Environmental Management Plan can be considered adequate to elude and/or reduce the risks to acceptable levels. Excel Dynamic Solutions (Pty) Ltd, therefore, assures that these measures are sufficient to enable environmentally sustainable and safe reforestation works on the project area. It is recommended that in the event of issuance of an ECC, written approval for the ECC may be issued on condition that the provided management measures and action plans are effectively implemented on-site and monitored. The monitoring of the environmental components described in the ESA should be conducted by the Proponent and applicable Competent Authorities. This is to ensure that all potential impacts identified in this study and other impacts that might arise during implementation are properly identified in time and addressed.

APPENDIX 1: CHANCE FINDS PROCEDURE (AFTER KINAHAN, 2020)

Areas of proposed development activity are subject to heritage survey and assessment at the planning stage. These surveys are based on surface indications alone, and it is, therefore, possible that sites or items of heritage significance will be found during development work. The procedure set out here covers the reporting and management of such findings.

Scope: The “*chance finds*” procedure covers the actions to be taken from the discovery of a heritage site or item to its investigation and assessment by a trained archaeologist or other appropriately qualified person.

Compliance: The “chance finds” procedure is intended to ensure compliance with relevant provisions of the National Heritage Act (27 of 2004), especially Section 55 (4): “*A person who discovers any archaeological objectmust as soon as practicable report the discovery to the Council*”. The procedure of reporting set out below must be observed so that heritage remains reported to the NHC are correctly identified in the field.

The manager/Supervisor must report the finding to the following competent authorities:

- National Heritage Council of Namibia (061 244 375)
- National Museum (061 276800),
- National Forensic Laboratory (061 240461).

Archaeological material must NOT be touched. Tempering with the materials is an offence under the heritage act and punishable upon conviction by the law.

Responsibility:

Operator: To exercise due caution if archaeological remains are found

Foreman: To secure site and advise management timeously

Superintendent: To determine safe working boundary and request inspection

Archaeologist: To inspect, identify, advise management, and recover remains

Procedure:

Action by person identifying archaeological or heritage material:

- a) If operating machinery or equipment stop work
- b) Identify the site with flag tape
- c) Determine GPS position if possible
- d) Report findings to foreman

Action by foreman:

- a) Report findings, site location, and actions taken to the superintendent
- b) Cease any works in the immediate vicinity.

Action by the superintendent:

- a) Visit the site and determine whether work can proceed without damage to the findings
- b) Determine and mark exclusion boundary
- c) Site location and details to be added to project GIS for field confirmation by archaeologist

Action by Archaeologist:

- a) Inspect the site and confirm the addition to project GIS.
- b) Advise NHC and request written permission to remove findings from the work area
- c) Recovery, packaging and labeling of findings for transfer to the National Museum

In the event of discovering human remains:

- a) Actions as above
- b) Field inspection by archaeologist to confirm that remains are human
- c) Advise and liaise with NHC and Police
- d) Recovery of remains and removal to National Museum or National Forensic Laboratory, as directed.