ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED DEVELOPMENT AND OPERATION OF A CAMPSITE AT FARM ARBEIT ADELT AND OPERATIONAL OF SOSSUSVLEI SHUTTLE SERVICE CONCESSION HARDAP REGION: NAMIBIA.



ENVIRONMENTAL MANAGEMENT PLAN FINAL JUNE 2024



<u>Prepared by:</u> Junior Baiano Industrial Consultants cc Postal Address: PO Box 23537, Windhoek Contact Person: Fredrich Nghiyolwa Contact number: +264 (61) 219 773 Cell: +264 (0) 81 1472029 Email: <u>JuniorB200581@gmail.com</u>



Prepared for: ABOUT ADELT SOSSUSVLEI CONCESSION MANAGEMENT (PTY) LTD Postal Address: Po Box 173, Swakopmund Contact Person: Heiko Dörgeloh Contact number: +264 811273366 Email: heiko@aboutafrica.co

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1.1 INTRODUCTION

Junior Baiano Industrial Consultants (JBIC) cc has been appointed by ABOUT ADELT SOSSUSVLEI CONCESSION MANAGEMENT (PTY) LTD to act on their behalf and apply for an Environmental Clearance Certificate (ECC) for the proposed development and operation of a campsite at farm Arbeit Adelt and operational of Sossusvlei shuttle service concession, at Maltahohe Hardap Region, Namibia (**Figure 1**). The proposed site falls in the Namib Desert naer Namib Naukluft National Park. The propose project will entail the development and operation of a campsite at farm Arbeit Adelt and operational of Sossusvlei shuttle service concession.

The establishment of proposed project is however one of the listed activities in the 2012 EIA Regulations of the Environmental Management Act No. 7 of 2007 that may not be undertaken without an Environmental Clearance Certificate (ECC). The relevant listed activities as per EIA regulations are:

6. The construction of resorts, lodges, hotels or other tourism and hospitality facilities.

OTHER ACTIVITIES:

11.2 Construction of cemeteries, camping, leisure and recreation sites.

It is for this reason that **Junior Baiano Industrial Consultants** has been appointed by the Proponent to undertake the EA and apply for the ECC.



Figure 1: Site locality

1.2 EMP ADMINISTRATION

There is a strong need to clearly outline the roles and responsibilities of all stakeholders to ensure that the EMP is fully implemented. There is also a need for the proponent to appoint an overall responsible person (project manager) to ensure the successful implementation of the EMP as highlighted below.

Table 1: Roles and Responsibilities in EMP Implementation

ROLE	ENVIRONMENTAL RESPONSIBILITIES
ABOUT ADELT SOSSUSVLEI CONCESSION MANAGEMENT (PTY) LTD (The proponent)	Responsible to enforce EMP implementation to contractors
Environmental Control Officer	 Implement, review and update the EMP. Ensure all reporting and monitoring required under EMP is undertaken, documented and distributed as needed Conduct environmental site training (tool box talks) and inductions with the support of an environmental consultant. Conducts environmental audit at work site with the support of environmental consultant. Close out all non-conformances. Ensure materials being used on site are environmentally friendly and safe.
The Department of Environmental Affairs	 Approve the EMP and any amendments to the EMP. Approve reports of environmental issues and non-conformances as issued. Review and approve environmental reports submitted as part of EMP implementation
Environmental Consultant	 Conduct and monitor actions required by the EMP if required Conduct environmental site training (tool box talks) and inductions if assistance is required Conducts environmental audit at work site Ensure materials being used on site are environmentally friendly and safe.
Site Technical Team	 Control and monitor actions required by the EMP. Report all environmental issues to Environmental Control Officer. Ensure documented procedures are followed and records kept on site.

ROLE	ENVIRONMENTAL RESPONSIBILITIES								
	Ensure any complaints are passed onto the management within								
	24 hours of receiving the complaint.								
Workers	Follow requirements as directed by site technical.								
	 Report any potential environmental issues to site engineer/project manager, indicating spilt oil, excess waste, excessive dust generation, dirty water running off the site and other possible non-conformances 								

1.3 EMP Management Actions

The management actions aim to avoid potential impacts where possible. Where impacts cannot be avoided, management actions are outlined in order to minimize the significant impacts.

The tables below outline the specific management actions which need to be undertaken during the construction and operational phase of the development to ensure that the site activities are compliant.

1.4 CONSTRUCTION AND OPERATIONAL PHASE MANAGEMENT ACTIONS

The table below outlines the management actions to be undertaken during the construction and operation phase of the project to ensure compliance with the EMP.

Table 2: Construction and Operation EMP

Impact	Description	Effects	Class	Time	Responsibility	Action	Phase
				frame			
Noise	Noise will be	 The health of 	Environmental	Constru	 Environmental 	 A construction 	Construction
pollution	generated	working personnel		ction	Control Officer	interval will be	&
	through:	could be disturbed		phase	Site Manger	established, used	Operation
	Construction	e.g., noise hearing		and		and adhered to.	
	and operational	loss.		operatio		Workers will be	
	of campsite	Community		nal		issued earplugs to	
	and of the	residents could be		phase		protect them from	
	shuttle services	disturbed by the				excessive noise.	
	Moving	noise.				Public will be	
	vehicles.	General annoyance				notified through	
		 Driving away of 				printed timetable	
		local animal species				stating planned	
		near the project site				operational	
						activities.	
						Construction	
						activities will be	
						conducted during	
						daytime.	

Impact	Description	Effects	Class	Time	Responsibility	Action	Phase
				frame			
						 Site notices will be 	
						erected on, around	
						the site-notifying	
						visitors, and nearby	
						residents of different	
						hazards on site e. g	
						noise .	
						 No go areas marked 	
						as sensitive	
						environments,	
						especially for birds	
						needs to be avoided	
						during construction	
						and operation.	
Dust	Dust will	Can lead to	Environmental	Constru	Environmental	 Dust suppression 	Construction
Generation	accumulate	respiratory illnesses		ction	Control Officer	will be done through	& Operation
	because of the	especially to those		phase	Project Manger	watering dust	
	land preparation,	working in the area.		and		sources surfaces.	
	onsite	General air		operatio		 Watering down 	
	movements of	pollution.		nal		dusty surfaces,	
	vehicles and			phase			

Impact	Description	Effects	Class	Time	Responsibility	Action	Phase
				frame			
	machines, wind	Nuisance to nearby				Ensure that	
	blowing on loose	residents				protective	
	material during	• The process can				equipment such as	
	construction and	also drive away wild				respirators are	
	tipping.	animals within the				distributed to	
		project area				employees and	
		surroundings				ensure their use.	
						 Site notices to be 	
						erected on and	
						around the site to	
						inform visitors and	
						surrounding	
						residents.	
Loss of	Vegetative	The clearing of	Environmental	Constru	Environmental	All the major trees	Construction
Biodiversity	plants on site	vegetation will result		ction	Control Officer	will be preserved,	and
	will be	in the breaking of		phase	Site Manager	and the layout plan	operational
	removed	the ecosystem		and		will fit into the	phase
	 Habitat 	processes in the		operatio		environment without	
	destruction for	area.		nal		affecting the trees.	
	both ground	Loss of aesthetic		phase		Ground disturbance	
	dwelling	value of the		phase		will only be limited to	

Impact	Description	Effects	Class	Time	Responsibility	Action	Phase
				frame			
	species and	proposed project				the boundary area to	
	tree dwelling	area.				avoid affecting a	
	species.	The few small				large area.	
	• Soil	animals still habiting				 Upon completion of 	
	disturbance on	the place such as				construction	
	and around the	small rodents and				activities more	
	site.	birds will be forced				vegetation will be	
		away.				planted on and	
		The ecosystem food				around the site to	
		chain on and				restore the site into	
		around the area will				a status that is	
		be broken.				environmentally	
						friendly.	
						 When necessary, a 	
						permit must be	
						obtained from the	
						Directorate of	
						Forestry before	
						removing a major	
						tree species (In this	
						respect, a permit is	
	i			1	i		1

Impact	Description	Effects	Class	Time	Responsibility	Action	Phase
				frame			
						not necessary to be	
						obtained for land	
						clearance for	
						MAWF)	
						 Any identified 	
						protected species	
						must not be	
						removed, and they	
						must be clearly	
						marked, and such	
						areas fenced off.	
						 Utilise existing 	
						tracks and roads	
						where possible.	
						 During vegetation 	
						clearing avoid killing	
						and/or hunting of	
						animals.	
						The proponent must	
						also adhere to the	
						recommendation	

Impact	Description	Effects	Class	Time	Responsibility	Action	Phase
				frame			
						measures	
						recommended in the	
						Biodiversity	
						specialist report.	
Greenhouse	Green House	 Global climate 	Environmental	Project	Environmental	 Adopt the use of 	Construction
gas	Gasses (GHGs)	change		lifetime	Control Officer	ethanol blended	& Operation
emissions	emissions will be	 Air pollution 			 Project 	fuels wherever	
	produced from				Manager	necessary.	
	the following				 Department of 	 Design an operation 	
	activities:				Environmental	system that cuts on	
	• Fuels				Affairs.	fuel consumption.	
	combustion for					 Use of solar energy 	
	transport					system during	
	(construction					construction for	
	vehicles and					lighting and other	
	equipment)					minor energy needs.	
	Ground						
	excavation						
	releases						
	phosphorus						
	found						

Impact	Description	Effects	Class	Time	Responsibility	Action	Phase
				frame			
	underground						
	and releases						
	particulate						
	matter into the						
	atmosphere.						
Waste	Construction and	 Chemical pollution 	Environmental	Project	 Environmental 	 Ensure that all 	Construction
Generation	operations are	from oil spills		lifetime	Control Officer	waste from	& Operation
	associated with a	resulting from the			 Project Manger 	construction	
	lot of raw material	handling of various				activities is disposed	
	and activities that	machineries used				in an appropriate	
	results in	during the				manner.	
	pollution	construction phase				 Bulky waste such as 	
		 Construction rubble, 				building rubbles	
		empty packaging				must be collected	
		containers/bags and				and disposed of for	
		materials remnants.				landfilling.	
		 Construction 				 Hazardous waste 	
		workers can also				storage bin will be	
		pollute the				on site and an	
		surrounding				independent	
		environs if they are				hazardous waste	

Impact	Description	Effects	Class	Time	Responsibility	Action	Phase
				frame			
		not provided with				transporting	
		adequate toilet				company will be	
		facilities and a				contracted to	
		waste management				collected hazardous	
		system for domestic				waste storage bin	
		waste.				whenever it is full.	
						 Visual inspections 	
						monitoring	
						All waste will be	
						managed by	
						proponent and the	
						developer will	
						ensure that	
						domestic waste	
						handling facilities	
						such as labelled	
						dustbins will be	
						available.	
						Waste separation	
						will be provided for	
						to allow for recycling	

Impact	Description	Effects	Class	Time	Responsibility	Action	Phase
				frame			
						of recyclable	
						materials i.e. glass,	
						hazardous waste,	
						paper, bio-	
						degradable waste.	
Hydrocarbon	There will be no	 Washing away of 	Environmental	Project	 Environmental 	 Implement a 	Construction
s release into	storage of oils	contaminated soils		lifetime	Control Officer	maintenance	& Operation
the	and fuel on site,	by rains into nearby			 Project 	programme to	
environment	however there is	rivers			Manager	ensure all vehicles,	
(oil spill)	risk of spillage of	 Pollution of soil and 			 Department of 	machinery and	
	hydrocarbons	affecting small living			Environmental	equipment are and	
	from vehicles and	organisms			Affairs.	remain in proper	
	machinery	habituating the soil				working order	
	operations,	 Result in possible 				Vehicle	
	maintenance	groundwater				maintenance should	
	through leakages	pollution.				be conducted in	
	and spillages	 Possible fire risk on 				designated areas	
	which may result	and around the site				only, preferably off-	
	in environmental					site.	
	contamination					 If maintenance is to 	
						be conducted on	

Impact	Description	Effects	Class	Time	Responsibility	Action	Phase
				frame			
						site, these areas	
						should be designed	
						to contain spillages	
						i.e. maintenance site	
						must be bunded and	
						paved and the use	
						of chemicals must	
						be controlled.	
						 Spillages 	
						contaminants are to	
						be removed from	
						site by a specialist	
						waste removal	
						contractor such as	
						rent a drum.	
						All stationary vehicle	
						must be equipped	
						with drip tray,	
						 Waste oil, fuels and 	
						other chemicals	
						from drip trays on	

Impact	Description	Effects	Class	Time	Responsibility	Action	Phase
				frame			
						stationery vehicles	
						and machinery will	
						be disposed of as	
						hazardous waste at	
						a licensed facility by	
						a specialist	
						hazardous waste	
						handler.	
						Oil residue will be	
						treated with oil	
						absorbent material	
						such as Drizit or	
						bioremediation and	
						removed to an	
						approved waste	
						disposal site	
						 Spill kits will be 	
						easily accessible	
						and workers will be	
						trained in the use	
						thereof.	
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Impact	Description	Effects	Class	Time	Responsibility	Action	Phase
				frame			
						Staff and contractors	
						will be trained in the	
						handling and	
						storage of oils, fuels,	
						chemicals and other	
						hazardous	
						substances	
						No bins containing	
						organic solvents	
						such as paint and	
						thinners shall be	
						cleaned on site,	
						unless containers for	
						liquid waste disposal	
						are provided on site.	

Impact	Description	Effects	Class	Time	Responsibility	Action	Phase
				frame			
Safety and	Construction	 Injuries to workers 	Health and	Constru	HSE Officer	 Equip workers with 	Construction
Health risks	related Safety	such as	safety	ction		Personal Protective	and operation
	and Health	Occupational		phase		Equipment (PPE),	
	hazards	dermatitis, slips and		and		provide trainings on	
		fall of humans and		operatio		how to effectively	
		objects,		nal		use the PPE.	
		musculoskeletal		phase		 Provide platforms for 	
		disorders, etc.				briefings and	
						meetings about	
						possible safety and	
						health hazards in	
						the workplace.	
						 Provide site signs 	
						warning and	
						informing about	
						different hazards on	
						site.	
	Electrical hazards	Fatalities and fires	Health and	Project	HSE Officer	Employees should	Construction
			safety	lifetime		be trained on	and Operation
						electrical safety	

Impact	Description	Effects	Class	Time	Responsibility	Action	Phase
				frame			
						before working on	
						site.	
						 Safety 	
						representative with	
						training on electrical	
						hazards emergency	
						management should	
						be station on site	
						always.	
						 Safety signs during 	
						construction and	
						operation should be	
						put on-site, no-go	
						areas should be	
						labelled, PPE	
						specifications should	
						be clear to	
						maintenance	
						personnel.	
Population	The project will	There is potential	Socio-	Project	Environmental	Train and brief	Construction
Influx	bring in skilled	for cultural systems	economic	lifetime	Control Officer	employees to	and Operation

Impact	Description	Effects	Class	Time	Responsibility	Action	Phase
				frame			
	and unskilled	conflict between			Project Manger	respect local	
	workforce into the	locals and new				cultures and	
	area.	people in the area				leaders,	
		 Potential for rife 				 Engage on massive 	
		prostitution and				sexual health	
		spread of HIV/AIDS				training and	
		and other STDs				awareness and	
						providing	
						contraceptives such	
						as condoms, as well	
						as provide means	
						counselling for those	
						that are affected by	
						HIV/AIDS and other	
						STDs	
Land use	The existing	Sudden change in	• Social	Project	Environmental	The development	Construction
change	environment will	landscape	Terrestrial	lifetime	Control Officer	should blend into the	and operation
	drastically	appearances may	environmen		Project Manger	existing area	
	change from a	be unfavourable to	t			through designing	
	dormant piece of	the conservatives.				and colour coding.	
	land to a						

Impact	Description	Effects	Class	Time	Responsibility	Action	Phase
				frame			
	recreation facility					 Green designing will 	
	facility.					bring life to the site	
						and blend with	
						surrounding areas.	
Resources	The construction	The project can result	Socio-	Project	Environmental	Water saving should be	Construction
consumption	industry can be	in a strain on available	economic	lifetime	Control Officer	ensured by the site	and operation
	resource	water resources,			Project Manger	manager i.e. repairing	
	intensive, i.e.	however also				leakages, opening taps	
	water resources.	generating clean				only when water is	
		energy/electricity.				required and recycling	
						of water on site.	
Movement of	Traffic and road	Road Accidents	Safety	Project	Environmental	Traffic signs and	Construction
vehicles	safety	Damage to roads	Socio-	lifetime	Control Officer	symbols should be	and operation
within the site			economic		Project Manger	used at all	
and along						necessary points	
main road						along the roads.	
						Schedule	
						construction work to	
						allow for the	
						movement of	

Impact	Description	Effects	Class	Time	Responsibility	Action	Phase
				frame			
						material and heavy	
						equipment.	
						Arrange for parking	
						and storage of	
						material onsite	
						where feasible.	
						Schedule vehicle	
						movement to	
						minimize disruption	
						to traffic flow along	
						the main and access	
						roads.	
						 Make provision for 	
						handling peak traffic	
						flows.	
						Identify traffic	
						hazards and	
						mitigate them	
						All drivers should be	
						competent and with	

Impact	Description	Effects	Class	Time	Responsibility	Action	Phase
				frame			
						defensive driving	
						certificates.	
						 Make use of road 	
						worthy vehicles.	
						Ensure that all traffic	
						safety measures are	
						put in place.	
						 Raise safety 	
						awareness in the	
						communities	
						 Carry periodic road 	
						maintenance work.	
Infrastructure	Disruption of	Failure in service	Socio-	Project	Environmental	Consultation with	Construction
(e.g. Power	socio-economic	provision e.g.	economic	lifetime	Control Officer	relevant authorities	and operation
lines,	activities of the	electrical power			Project Manger	and departments for	
highway) that	surrounding local	supply failure;				best possible	
run close to	land users					actions to take.	
the project						 Do not extend 	
site						operations to areas	
						close to the	
						infrastructure until	

Impact	Description	Effects	Class	Time	Responsibility	Action	Phase
				frame			
						everyone affected is	
						involved.	
						 Mapping of all 	
						infrastructure and	
						establishment of	
						appropriate	
						servitudes	
						• Do a risk	
						assessment for the	
						site and manage the	
						risks	
Water	Over abstraction	Water supply	Social	Project	Site Engineer	-Drinking water	Construction
resources	(water demand	agreements Proof/		lifetime	• ECO	abstracted from	& Operational
use	and availability)	recording/				boreholes or supplied	
		quantification of				by carting should be	
		water saving efforts.				used efficiently, and	
		Water supplier -				recycling and re-using	
		Water permits -				of water on certain	
		inspection of water				site activities should	
		storage tanks on				be encouraged, where	
		site				necessary and	

Image Image Image Image Image Image Image Image Image Image Image Image Image Image Image Image Image Image Image Image Image Image Image Image Image Image Image Image Image Image Image <th>Impact</th> <th>Description</th> <th>Effects</th> <th>Class</th> <th>Time</th> <th>Responsibility</th> <th>Action</th> <th>Phase</th>	Impact	Description	Effects	Class	Time	Responsibility	Action	Phase
possibleA Borehole Drilling and Groundwater Abstraction permits should be applied for the Department of Water Affairs at MAWLR, should the Proponent consider drilling new water supply boreholes The Proponent should consider carting water for drilling from elsewhere outside the site area such as Mattababe to relieve					frame			
Image: state of the state							possibleA Borehole	
Groundwater Abstraction permits should be applied for the Department of Water Affairs at MAWLR, should the Proponent consider drilling new water supply boreholes The Proponent should consider carting water for drilling from elsewhere outside the site area such as Maltababe to relieve							Drilling and	
Abstraction permits should be applied for the Department of Water Affairs at MAWLR, should the Proponent consider drilling new water supply boreholes The Proponent should consider carting water for drilling from elsewhere outside the site area such as Maltahohe to relieve							Groundwater	
should be applied for the Department of Water Affairs at MAWLR, should the Proponent consider drilling new water supply boreholes The Proponent should consider carting water for drilling from elsewhere outside the site area such as Maltabobe to relieve							Abstraction permits	
Image: state of the Department of Water Affairs at MAWLR, should the Proponent consider Image: state of the Department of Water Affairs at MAWLR, should the Proponent consider Image: state of the Department of Water Affairs at MAWLR, should the Proponent consider Image: state of the Department of Water Affairs at MAWLR, should the Proponent consider Image: state of the Department of Water Affairs at MAWLR, should the Proponent consider Image: state of the Department of Water Affairs at MAWLR, should the Proponent consider Image: state of the Department of the Proponent should consider carting water for drilling from elsewhere outside the site area such as Maltahohe to relieve							should be applied for	
Water Affairs at MAWLR, should the Proponent consider drilling new water supply boreholes The Proponent should consider carting water for drilling from elsewhere outside the site area such as Maltahobe to relieve							the Department of	
MAWLR, should the Proponent consider drilling new water supply boreholes The Proponent should consider carting water for drilling from elsewhere outside the site area such as Maltabobe to relieve							Water Affairs at	
Proponent consider drilling new water supply boreholes The Proponent should consider carting water for drilling from elsewhere outside the site area such as Maltahobe to relieve							MAWLR, should the	
Image: Second							Proponent consider	
Image: supply boreholes The Proponent should Image: supply boreholes The Proponent should <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>drilling new water</td> <td></td>							drilling new water	
Image: Second							supply boreholes	
Image: step in the step							The Proponent should	
for drilling from elsewhere outside the site area such as Maltahohe to relieve							consider carting water	
elsewhere outside the site area such as Maltabobe to relieve							for drilling from	
site area such as Maltabobe to relieve							elsewhere outside the	
Maltahohe to relieve							site area such as	
							Maltahohe to relieve	
pressure of the							pressure of the	
available resources.							available resources.	
Agreements of water							Agreements of water	
supply should be							supply should be	

Impact	Description	Effects	Class	Time	Responsibility	Action	Phase
				frame			
						made between the	
						willing water supplier	
						and the Proponent	
						Water reuse/recycling	
						methods should be	
						implemented as far as	
						practicable such that	
						the water used for the	
						cleaning of project	
						equipment, if possible.	
						-Water storage tanks	
						should be inspected	
						daily to ensure that	
						there is no leakage,	
						resulting in wasted	
						water on site.	
						Water conservation	
						awareness and saving	
						measures training	
						should be provided to	
						all the project workers	

Impact	Description	Effects	Class	Time	Responsibility	Action	Phase
				frame			
						in both phases so that	
						they understand the	
						importance of	
						conserving water and	
						become accountable.	
Archaeology	The chances of	Presence or	Social	Through	• ECO	Incase any	Throughout the
and Heritage	discovering	unearthing of		out the	 Archeologist 	archeological	operational
	archaeological	archaeological or		project		significant structure or	phase
	significant	cultural heritage				object is discovered,	
	structure / objects	resources				the proponent must	
	are there					cease all activities on	
						site and wait for NHC	
						to inspect site and	
						give	
						further instructions /	
						actions. As stated in	
						the appendix A	
						attached in this	
						document.	
Positive Impacts							

Impact	Description	Effects	Class	Time	Responsibility	Action	Phase
				frame			
Employment	The development	Improves disposable	Socio-	Project	Project Manger	Work with local	Construction
creation	provides an	income to those	economic	lifetime		leadership (councillor)	and operation
	opportunity of	employed and their				on acquiring non-	
	outsourcing work	immediate families.				skilled labour from the	
						residents.	
Business	Raw materials	 Local suppliers will 	Socio-	Project	Project Manger	The proponent will	Construction
linkages	acquiring and	be presented with	economic	lifetime		outsource most of its	and operation
	contracting	an opportunity to				materials and services	
	companies	empower their				from the surrounding	
	provide an	businesses.				local community	
	opportunity for	 Construction 					
	businesses.	workers can be					
		provided with					
		accommodation,					
		food and services					
		from the local					
		community					
		increasing business					
		activities.					
Infrastructure	The development	 Existing roads will 	Socio-	Project	Project manager	Development such as	Construction
development	presents a unique	be upgraded which	economic	lifetime		road upgrading will not	and operation

Impact	Description	Effects	Class	Time	Responsibility	Action	Phase
				frame			
	opportunity for	will benefit the local				only be limited up until	
	infrastructure	community.				the project site, but it	
	development	Development of the				will be extended to	
		facilities will also				service other the	
		pave way for future				connecting roads when	
		developers to grow				there is need.	
		interests in the area					
		and result in ripple					
		effects and quick					
		growing of the area.					
Climate smart	The project is	Alternative clean	Socio-	Operatio	Project manager	It is recommended that	Operation
energy	towards clean	energy generation	economic	n phase		the project once it	
	energy		Environmen			takes off, a second	
	production and is		tal			phase development be	
	highly beneficial					implemented in order	
	to the country					to expand operations.	
	and the continent						
	at large.						

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1.5 ENVIRONMENTAL MONITORING PLAN

Monitoring is very important for identifying the success of mitigation measures formulated for the significant impacts identified. Monitoring of activities will identify impacts that have not been foreseen and give enough time to analyse the situation and formulate measures to minimise impacts. Survey records and results must be maintained for these monitoring and inspections, highlighting any problems and the measures taken to address it.

Prior to site preparation and construction activities, the main contractor should present an environmental monitoring plan (including, *inter alia*, location of construction camp and toilet facilities, location of material storage areas, solid waste management plan, dust control measures, activity schedule, etc.) for review and approval by the DEA, the environmental control officer and the project manager. The developer should present a landscape plan and the trees/vegetation earmarked for protection should be flagged and hoarded by the contractor.

The entity selected to carry out environmental monitoring of the construction works should then prepare an environmental monitoring programme based on the above, the requirements of the EIA, and conditions of the development permit. The major elements of the environmental impact monitoring programme to be implemented during the construction phase of the project are as follows:

- Site clearance to ensure that trees marked for protection are left untouched and that large areas of soil are not left exposed and uncovered for extended periods of time.
- Site drainage and surface runoff, especially during and shortly after major rainfall events, to ensure there is no flooding, ponding and runoff of surface water Compliance of construction works with site management and landscape plans.
- Ensure transportation of earth materials is done by covered trucks and from approved sites.
- The contractor must immediately and completely clean up spills of materials in public areas.
- Solid waste disposal practices to ensure appropriate on-site management and final disposal at approved dump.

2 CONCLUSION AND RECOMMENDATIONS

The Environmental Impact Assessment process for the proposed development and operation of a campsite at farm Arbeit Adelt and operational of Sossusvlei shuttle service concession, Maltahohe Hardap Region - Namibia was conducted in accordance to the Environmental Management Act 2007 and EMA Regulation 2012. Further consideration was given to relevant legislation throughout the entire process to ensure a successful assessment process.

Impacts likely to occur during project phases (construction and operation) were assessed depicting a positive outlook despite limited details of the magnitude of the proposed development. Based on the assessment, the overall project is less damaging to the environment demonstrating improved health provision, food security, high job creation opportunities and community development. Impacts with negative effects were also identified and summarized in a form of environmental management plan to ensure sustainable implementation.

The site has access to services such as electricity and roads for accessibility. Adding on the site has minimal vegetation such that no trees will be removed during the construction phase. It is important that the proponent observe and maintain accountability to both socioeconomic and environmental sensitive activities from the project, such that the project is harmonized with policy, regulations, administrative frameworks and social interface with the public as proposed in the environmental management plan. Failure to observe these measures will significantly affect the local environment and lead to non-compliance. Therefore, implementation environmental protection measures should be executed in consultation with the key stakeholders.

JBIC cc hereby recommends that MET: DEA grant the environmental clearance certificate for the proposed development and operation of a campsite at farm Arbeit Adelt and operational of Sossusvlei shuttle service concession Maltahohe, Hardap Region - Namibia, under the condition of full implementation of the project's EMP.

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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 finds.

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 … Object ……must 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. Manager/Supervisor must report the finding to the following competent authorities:

- National Heritage Council of Namibia (061 244 375 / Technical Office +264 61 301 903)
- 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, advice 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 superintendent
- b) Cease any works in immediate vicinity

Action by superintendent

- a) Visit site and determine whether work can proceed without damage to 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 site and confirm addition to project GIS
- b) Advise NHC and request written permission to remove findings from work area
- c) Recovery, packaging and labelling of findings for transfer to 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.

APPENDICES

Appendix A: Public Consultation Documents

- 1. Background Information Document
- 2. Newspaper Adverts
- 3. Site Notice
- 4. Meeting Attendance Register
- 5. Meeting Presentation
- 6. Questionnaires

Appendix B: Site Information

- 1. Approvals/licenses
- 2. Land Ownership
- 3. Locality Map
- 4. Specialist studies

Appendix C: Consultancy Team resumes