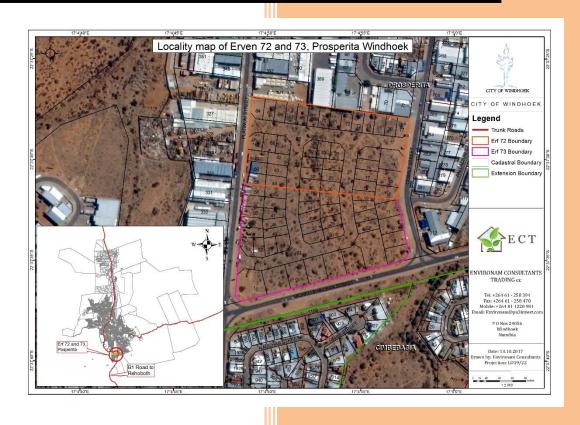
# Environmental Management Plan



#### Tuye Buco Construction cc

Consolidation and Subdivision of Erven 72 and 73 Prosperita, Windhoek

# Environmental Management Plan

CONSOLIDATION AND SUBDIVISION OF ERVEN 72 AND 73 PROSPERITA, WINDHOEK

#### **PROJECT DETAILS**

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### **TABLE OF CONTENTS**

1.1	PROJECT LOCALITY		5
2 F	OLES AND RESPONSIBILI	TIES	7
2.1	DEVELOPER'S REPRES	SENTATIVE	7
2.2	ENVIRONMENTAL CO	NTROL OFFICER	8
2.3	CONTRACTOR		8
3 <i>A</i>	ASSUMPTIONS AND LIMIT	TATIONS	9
4 /	APPLICABLE LEGISLATION		9
5 N	MANAGEMENT ACTIONS.		11
5.1	PLANNING AND DESIG	GN PHASE	12
5.2		SE	_
5.3		INTENANCE PHASE	
5.4		PHASE	20
TAB	LE OF FIGURES		
		Windhoek	
		the development site	
Figur	e 1-3: Zoning map of tr	ne proposed development	6
LIST	OF TABLES		
Table		ilities	7
Table		ns relevant to this development	
Table	3	esign management actions	
Table		hase management actions	
Table	•	maintenance management actions	
Table	2 3-4. Decommission	ng phase management actions	20
ABB	REVIATIONS		
AIDS	;	Acquired Immuno-Deficiency Syndrome	
DR		Developer's Representative	
EA		Environmental Assessment	
ECC		Environmental Clearance Certificate	
ECO		Environmental Control Officer	
EIA		Environmental Impact Assessment	
EMA		Environmental Management Act	
EMP		Environmental Management Plan	
GG		Government Gazette	
GIS		Geographic Information System	
		<u> </u>	

1 INTRODUCTION......4

GN	Government Notice
GPS	Global Positioning System
HIV	Human Immuno-deficiency Virus
CoW	City of Windhoek
I&APs	Interested and Affected Parties
NHC	National Heritage Council
Reg.	Regulation
S	Section
ТВ	Tuberculosis

#### 1 INTRODUCTION

In order to expedite land delivery in its area of jurisdiction, the City of Windhoek has generally resolved to conclude development agreements with the private sector in terms of which funding is to be sourced, infrastructure services will be installed to the Council owned property and a joint marketing, development and sales is undertaken by the developer and the municipality.

In line with the above the Municipal Council of Windhoek, as the owner, has availed Portions of Farm Windhoek Town and Town Lands No. 31, known as **Erven 72 and 73 Prosperita** to Tuye Buco Construction cc as the developer and proponent. The Council has made the land available as unserviced land and the developer will finalise the planning and approval processes as well as the cadastral procedures. The new consolidated erf will be subdivided into approximately 77 industrial erven. The approved land use will be for light industrial purposes only.

In compliance with the legal requirements contained in the Environmental Management Act, 2007 (Act 7 of 2007) Tuye Buco Construction cc has obtained an ECC for this activity in 2017 (see **Appendix C**). The duration of an ECC is three years upon which a renewal of the certificate becomes necessary. It is against this background that Tuye Buco Construction cc, the proponent, has appointed Environam Consultants Trading (ECT) to undertake the process of applying for the renewal on their behalf.

Key to the issuance of an Environmental Clearance Certificate for the renewal is the submission of an Environmental Management Plan (EMP) which provides for a description of how an activity might impact on the natural environment in which it occurs and clearly sets out commitments from the proponent on how identified impacts will be avoided, minimised or managed so that they are environmentally acceptable. An EMP is one of the most important outputs of the EA process as it synthesises all of the proposed mitigation and monitoring actions, set to a timeline and with specific assigned responsibilities. This EMP details the mitigation and monitoring actions to be implemented during the following phases of this development:

- <u>Planning and Design</u> the period, prior to construction, during which preliminary legislative and administrative arrangements, necessary for the preparation of the land, are made and engineering designs are carried out. The preparation of construction tender documents forms part of this phase;
- <u>Construction</u> the period during which the proponent, having dealt with the
  necessary legislative and administrative arrangements, appoints a contractor for the
  construction of services infrastructure, buildings as well as any other construction
  process(s) within the development areas;

 Operation and Maintenance - the period during which the development will be fully functional, operational and maintained.

The decommissioning of this development is not envisaged; however in the event that this should be considered some recommendations have been outlined in **Table 5-4**.

#### 1.1 PROJECT LOCALITY

The proposed site is located on the southernmost side of Windhoek within the Prosperita industrial extension. It lies north of Cimbebasia Proper residential township. The more prominent properties surrounding the proposed development site include amongst others Aucor, and National Commission on Research Science and Technology. Refer to Figure 1-1 below for the locality map of Windhoek, Figure 1-2 for the locality map of Cimbebasia Extension 7 and Figure 1-3 for the zoning map.



Figure 1-1: Locality map of Windhoek



Figure 1-2: Locality map of the development site

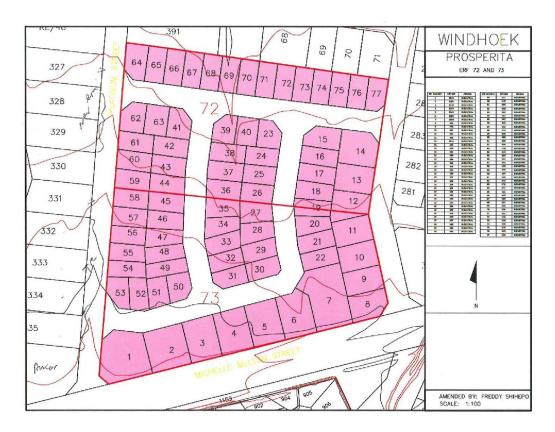


Figure 1-3: Zoning map of the proposed development

#### 2 ROLES AND RESPONSIBILITIES

Tuye Buco (the Developer) is ultimately responsible for the implementation of the EMP, from the planning and design phase to the decommissioning phase of this development, if the development is in future decommissioned. The developer will delegate this responsibility as the project progresses through its life cycle. The delegated responsibility for the effective implementation of this EMP will rest on the following key individuals:

- Developer's Representative;
- Environmental Control Officer; and
- Contractor (Construction and Operations and Maintenance).

#### 2.1 DEVELOPER'S REPRESENTATIVE

The Developer should assign the responsibility of managing all aspects of this development for all development phases (including all contracts for work outsourced) to a designated member of staff, referred to in this EMP as the Developer's Representative (DR). The Developer may decide to assign this role to one person for the full duration of the development, or may assign a different DR to each of the development phases - i.e. one for the planning and design phase, one for the construction phase and one for the operation and maintenance phase. The DR's responsibilities are depicted in **Table 2-1** as follows:

Table 2-1: DR's responsibilities

Responsibility	Project Phase
Making sure that the necessary approvals and permissions laid out in <b>Table 4-1</b> are obtained/adhered to	Throughout the lifecycle of this development
out in Table 4-1 are obtained/adhered to	this development
Making sure that the relevant provisions detailed in Table 5-1	Planning and design phase
are addressed during planning and design phase.	
Suspending/evicting individuals and/or equipment not	Construction
complying with the EMP	Operation and
	maintenance
Issuing fines for contravening EMP provisions	Construction
	Operation and
	maintenance

#### 2.2 ENVIRONMENTAL CONTROL OFFICER

The DR should assign the responsibility of overseeing the implementation of the whole EMP on the ground during the construction and operation and maintenance phases to a designated member of staff, referred to in this EMP as the Environmental Control Officer (ECO). The DR/Developer may decide to assign this role to one person for both phases, or may assign a different ECO for each phase. The ECO will have the following responsibilities during the construction and operation and maintenance phases of these developments:

- Management and facilitation of communication between the Developer, DR, the contractors, and Interested and Affected Parties (I&APs) with regard to this EMP;
- Conducting site inspections (recommended minimum frequency is monthly) of all
  construction and/or infrastructure maintenance areas with respect to the
  implementation of this EMP (monitor and audit the implementation of the EMP);
- Assisting the Contractor in finding solutions with respect to matters pertaining to the implementation of this EMP;
- Advising the DR on the removal of person(s) and/or equipment not complying with the provisions of this EMP;
- Making recommendations to the DR with respect to the issuing of fines for contraventions of the EMP; and
- Undertaking an annual review of the EMP and recommending additions and/or changes to this document.

#### 2.3 CONTRACTOR

Contractors appointed by the Developer are automatically responsible for implementing all provisions contained within the relevant chapters of this EMP. Contractors will be responsible for the implementation of this EMP applicable to any work outsourced to subcontractors. **Table 5-2** applies to contractors appointed during the construction phase and **Table 5-3** to those appointed during the operation and maintenance phase. In order to ensure effective environmental management the aforementioned chapters should be included in the applicable contracts for outsourced construction, operation and maintenance work.

The tables in **Chapter 5** detail the management measures associated with the roles and responsibilities that have been laid out in this chapter.

#### 3 ASSUMPTIONS AND LIMITATIONS

This EMP has been drafted based on the scoping-level Environmental Assessment (EA) conducted for the consolidation and subdivision of Erven 72 and 73 Prosperita as represented by the developer. ECT will not be held responsible for the potential consequences that may result from any alterations to the initial layout.

It is assumed that construction labourers will be sourced mostly from the Windhoek townlands areas and that migrant labourers (if applicable) will be housed within established accommodation facilities in town.

#### 4 APPLICABLE LEGISLATION

Legal provisions that have relevance to various aspects of this development are listed in **Table 4-1** below. The legal instrument, applicable corresponding provisions and contact details are provided.

Table 4-1: Legal provisions relevant to this development

Table 4-1: Legal provisions relevant to this development		
LEGISLATION/POLICIES	RELEVANT PROVISIONS	RELEVANCE TO PROJECT
The Constitution of the Republic of Namibia as Amended	Article 91 (c) provides for duty to guard against "the degradation and destruction of ecosystems and failure to protect the beauty and character of Namibia."	Sustainable development should be at the forefront of this development.
	Article 95(l) deals with the "maintenance of ecosystems, essential ecological processes and biological diversity" and sustainable use of the country's natural resources.	
Environmental Management Act No. 7 of 2007 (EMA)	Section 2 outlines the objective of the Act and the means to achieve that. Section 3 details the principle of Environmental Management	The development should be informed by the EMA.
EIA Regulations GN 28, 29, and 30 of EMA (2012)	GN 29 Identifies and lists certain activities that cannot be undertaken without an environmental clearance certificate. GN 30 provides the regulations governing the environmental assessment (EA) process.	Activity 10.1 (a) The construction of oil, water, gas and petrochemical and other bulk supply pipelines.  Activity 10.1 (b) The construction of public roads.  Activity 10.2 (a) The route determination of roads and design of associated physical infrastructure where it is a public road.

LEGISLATION/POLICIES	RELEVANT PROVISIONS	RELEVANCE TO PROJECT
Convention on Biological Diversity (1992)	Article 1 lists the conservation of biological diversity amongst the objectives of the convention.	The project should consider the impact it will have on the biodiversity of the area.
Draft Procedures and Guidelines for conducting EIAs and compiling EMPs (2008)	Part 1, Stage 8 of the guidelines states that if a proposal is likely to affect people, certain guidelines should be considered by the proponent in the scoping process.	The EA process should incorporate the aspects outlined in the guidelines.
Namibia Vision 2030	Vision 2030 states that the solitude, silence and natural beauty that many areas in Namibia provide are becoming sought after commodities and must be regarded as valuable natural assets.	Care should be taken that the development does not lead to the degradation of the natural beauty of the area.
Water Act No. 54 of 1956	Section 23(1) deals with the prohibition of pollution of underground and surface water bodies.	The pollution of water resources should be avoided during construction and operation of the development.
The Ministry of Environment and Tourism (MET) Policy on HIV & AIDS	MET has recently developed a policy on HIV and AIDS. In addition it has also initiated a programme aimed at mainstreaming HIV and gender issues into environmental impact assessments.	The proponent and its contractor have to adhere to the guidelines provided to manage the aspects of HIV/AIDS.  Experience with construction projects has shown that a significant risk is created when construction workers interact with local communities.
Township and Division of Land Ordinance 11 of 1963	The Townships and Division of Land Ordinance regulates subdivisions of portions of land falling within a proclaimed Local Authority area.	In terms of Section 19 such applications are to be submitted to the Townships Board
Local Authorities Act No. 23 of 1992	The Local Authorities Act prescribes the manner in which a town or municipality should be managed by the Town or Municipal Council. Sections 34-47 make provision for the aspects of water and sewerage.	The development has to be comply with the provisions of the Local Authorities Act
Labour Act no 11 of 2007	Chapter 2 details the fundamental rights and protections. Chapter 3 deals with the basic conditions of employment.	Given the employment opportunities presented by the development, compliance with the labour law is essential.
Public Health Act no 36 of 1919	Section 119 prohibits persons from causing nuisance.	Contractors and residents of the proposed extensions are to comply with these legal requirements.

LEGISLATION/POLICIES	RELEVANT PROVISIONS	RELEVANCE TO PROJECT
Nature Conservation	Chapter 6 provides for	Indigenous and protected plants
Ordinance no 4 of 1975	legislation regarding the protection of indigenous plants	have to be managed within the legal confines.
Atmospheric Pollution	The Ordinance objective is to	All future activities on the sites
Prevention Ordinance	provide for the prevention of	will have to take due
(No. 11 of 1976).	the pollution of the atmosphere,	consideration of the provisions
	and for matters incidental	of this legislation.
	thereto.	
Roads Ordinance 17 of	This Ordinance consolidates the	The provisions of this legislation
1972	laws relating to roads.	have to be taken into
		consideration in as far as access
		to the development site is concerned.
Roads Authority Act,	Section 16(5) of this Act places a	Some functions of the Roads
1999	duty on the Roads Authority to	Ordinance 17 of 1972 have been
	ensure a safe road system.	assigned to the Roads Authority.

#### 5 MANAGEMENT ACTIONS

The aim of the management actions in this chapter of the EMP is to avoid potential impacts where possible. Where impacts cannot be avoided, measures are provided to reduce the significance of these impacts.

It is important that the proponent familiarise themselves with the contents of the Integrated Development Plan of the City of Windhoek and abide by its guidelines as far as the risk to the Windhoek Aquifer is concerned

The following tables provide the management actions recommended to manage the potential impacts rated in the scoping-level EA conducted for this development. These management actions have been organised temporally according to project phase:

- Applicable legislation (Table 4-1);
- Planning and design phase management actions (Table 5-1);
- Construction phase management actions (Table 5-2);
- Operation and maintenance phase management actions (Table 5-3); and
- Decommissioning phase management actions (**Table 5-4**).

The responsible persons at the Developer's team have assessed these commitments in detail and have committed to the specific management actions where indicated in the tables below.

#### 5.1 PLANNING AND DESIGN PHASE

The DR should ensure that the management actions detailed below in **Table 5-1** should be adhered to during the period before the construction of the infrastructure starts.

**Table 5-1:** Planning and design management actions

PLANNING AND DESIGN PHASE IMPACTS			
Impact	Mitigation Measures		
	Ensure that proposed developments are aligned with the zoning.		
Land use change	Identify and retain as much of the important indigenous trees.		
	Introduce landscaping to supplement and replace existing and removed vegetation.		
	The service infrastructure should be designed and constructed by suitably qualified engineering professionals.		
	Appoint professional engineers to develop a detailed storm water management design as part of the		
	infrastructure service provision of the development.		
	Develop and implement a preventative maintenance plan for the service infrastructure.		
	No dumping of waste products of any kind in or in close proximity to any water bodies.		
Surface and	• Contaminated runoff from the various operational activities should be prevented from entering any water bodies.		
ground water	Ensure that surface water accumulating on-site are channelled and captured through a proper storm water		
ground water	management system to be treated in an appropriate manner before disposal into the environment.		
	Wastewater should not be discharged directly into the environment.		
	Disposal of waste from the development should be properly managed.		
	Ensure protection of all river courses in the development area.		
	Participate in City of Windhoek's programmes geared to protecting the Windhoek Aquifer.		
	Proponent to familiarise themselves with the Integrated Development Plan of the City of Windhoek.		
	Adapt the proposed development to the local environment - e.g. small adjustments to the site layout to avoid		
	potential features such as existing vegetation, etc.		
Fauna and flora	Plant local indigenous species of flora as part of the landscaping as these species would require less maintenance		
T dana and nord	than exotic species.		
	Prevent the introduction of potentially invasive alien ornamental plant species such as; Lantana, Opuntia,		
	Prosopis, Tecoma, etc.; as part of the landscaping as these species could infestate the area further over time.		

PLANNING AND DESIGN PHASE IMPACTS			
Impact	Mitigation Measures		
	Prevent the collecting wood, veld food, hunting etc		
	• It is recommended that alternative and renewable source of energy be explored and introduced into the proposed development to reduce dependency on the grid.		
	Solar geysers and panels should be introduced to provide for general lighting and heating of water and buildings.		
	• Other 'green' technologies to reduce the proposed development's dependency on fossil fuel should be explored where possible.		
Existing Service Infrastructure	Designs and building materials should be as such to reduce dependency on artificial heating and cooling in order to limit the overall energy necessities.		
	Water saving mechanisms should be incorporated within the proposed development's design and plans in order to further reduce water demand.		
	Re-use of treated waste water should be considered wherever possible to reduce the consumption of potable water.		
	Adhere to water quality guidelines in terms of The Water Act, 1956.		
	Ensure that road junctions have good sightlines.		
Traffic	Adhere to the speed limit.		
	Implement traffic control measures where necessary.		

#### 5.2 CONSTRUCTION PHASE

The management actions listed in **Table 5-2** apply during the construction phase. This table may be used as a guide when developing EMPs for other construction activities within this development area.

 Table 5-2:
 Construction phase management actions

CONSTRUCTION PHASE IMPACTS			
Impact	pact Mitigation Measures		
Fauna and flora	<ul> <li>Prevent contractors from collecting wood, veld food, etc. during the construction phase.</li> <li>Do not clear cut the entire development site, but rather keep the large individual trees and shrubs not directly affecting the development as part of the landscaping.</li> <li>Transplant removed vegetation where possible, or plant new trees in lieu of those that have been removed.</li> <li>The trees that are to be kept should be clearly marked with "danger tape" or similar marking tool to prevent accidental removal.</li> <li>Regular inspection of the marking tool should be carried out.</li> </ul>		
Pressure on existing infrastructure	<ul> <li>The very important trees should be "camped off" to prevent the unintended removal or damage to these trees</li> <li>Ensure all potable water points are metered and regularly read.</li> <li>Ensure that the workforce is provided with temporary toilets during the construction phase.</li> <li>Waste from the temporary toilets should be disposed of at the City of Windhoek's Wastewater Treatment Works.</li> <li>A sufficient number of waste bins should be placed around the site for the soft refuse.</li> <li>A sufficient number of skip containers for the heavy waste and rubble should be provided for around the site.</li> <li>Solid waste will be collected and disposed off at an appropriate local land fill in Windhoek, in consultation with the local authority. No open urination and defecation is allowed in the development area.</li> </ul>		
Surface and Ground Water Impacts	<ul> <li>It is recommended that construction takes place outside of the rainy season in order to limit flooding on site and to limit the risk of ground and surface water pollution.</li> <li>No dumping of waste products of any kind in or in close proximity to water bodies.</li> <li>Heavy construction vehicles should be kept out of any surface water bodies and the movement of construction vehicles should be limited where possible to the existing roads and tracks.</li> <li>Ensure that oil, fuel and bitumen spillages from construction vehicles and machinery are prevented and that where these occur, that they are appropriately dealt with.</li> <li>Drip trays must be placed underneath construction vehicles when not in use to contain all oil that might be leaking from these vehicles.</li> </ul>		

CONSTRUCTION PHASE IMPACTS		
Impact	Mitigation Measures	
Health, Safety and Security	<ul> <li>Contaminated runoff from the construction sites should be prevented from entering the surface and ground water bodies.</li> <li>All materials on the construction site should be properly stored.</li> <li>Disposal of waste from the site should be properly managed and taken to a municipal landfill site in the city.</li> <li>Construction workers should be given ablution facilities at the construction sites that are located at least 30 m away from any surface water and these should be regularly serviced.</li> <li>Washing of personnel or any equipment should not be allowed on site. Should it be necessary to wash construction equipment these should be done at an area properly suited and prepared to receive and contain polluted waters.</li> <li>Construction personnel should not overnight at the site, except for security personnel.</li> <li>Ensure that all construction personnel are properly trained depending on the nature of their work.</li> <li>Provide for a first aid kit and a properly trained person to apply first aid when necessary.</li> <li>A wellness program should be initiated to raise awareness on health issues, especially the impact of sexually transmitted diseases.</li> <li>Provide access to free condoms in the workplace throughout the construction phase.</li> <li>Facilitate access to Antiretroviral medication for construction personnel.</li> <li>Adhere to the Covid-19 protocols as they are applicable from time to time.</li> <li>Restrict unauthorised access to the site and implement access control measures.</li> <li>Clearly demarcate the construction site boundaries along with signage of no unauthorised access.</li> <li>Clearly demarcate dangerous areas and no go areas on site.</li> <li>Staff and visitors to the site must be fully aware of all health and safety measures and emergency procedures.</li> <li>The contractor must comply with all applicable occupational health and safety requirements. The workforce should be provided with all necessary Personal Protective Equipment where appropriate.</li> &lt;</ul>	
Traffic	<ul> <li>Limit and control the number of access points to the site.</li> <li>Ensure that road junctions have good sightlines.</li> <li>Construction vehicles need to be in a road worthy condition and maintained throughout the construction phase.</li> </ul>	

	CONSTRUCTION PHASE IMPACTS		
Impact	Mitigation Measures		
	Transport the materials in the least amount of trips as possible.		
	Adhere to the speed limit.		
	Implement traffic control measures where necessary.		
	Minimise the movement of heavy vehicles during peak time.		
Noise	No amplified music should be allowed on site.		
	• Inform immediate neighbours of construction activities to commence and provide for continuous		
	communication between the neighbours and contractor/s.		
	Limit construction times to acceptable daylight hours.		
	Install technology such as silencers on construction machinery.		
	Do not allow the use of horns as a general communication tool, but use it only where necessary as a safety measure.		
	Provide protective equipment such as ear muffs and ear plugs to workers.		
Air quality	All loose material should be kept on site for the shortest possible time.		
7 <b>qua</b>	<ul> <li>It is recommended that dust suppressants such as Dustex be applied to all the construction clearing</li> </ul>		
	activities to minimise dust.		
	Construction vehicles to only use designated roads.		
	During high wind conditions the contractor must make the decision to cease works until the wind has		
	calmed down.		
	Cover any stockpiles with plastic to minimise windblown dust.		
	Provide workers with dust masks.		
	Ensure construction vehicles are well maintained to prevent excessive emission of smoke.		
Waste	It is recommended that waste from the temporary toilets be disposed of at the municipal Wastewater		
	Treatment Works.		
	<ul> <li>A sufficient number of waste bins should be placed around the site for the soft refuse.</li> </ul>		
	<ul> <li>A sufficient number of skip containers for the heavy waste and rubble should be provided for around the site.</li> </ul>		

CONSTRUCTION PHASE IMPACTS			
Impact	Impact Mitigation Measures		
	<ul> <li>The waste containers should be able to be closed to prevent birds and other animals from scavenging.</li> <li>Solid waste will be collected and disposed off at an appropriate local municipal landfill in the city, in consultation with the local authority.</li> </ul>		
Hazardous Substances	<ul> <li>All chemicals and other hazardous substances must be stored and maintained in accordance with the Hazardous Substances Ordinance (No. 14 of 1974), with all relevant licences and permits to be obtained where applicable.</li> <li>Given the potential harm to human health during handling and use of any of hazardous substances it is essential that all staff be trained with regards to the proper handling of these substances as well as First Aid in the case of spillage or intoxication.</li> <li>Storage areas for all substances should be bunded and capable to hold 120% of the total volume of a given substance stored on site.</li> </ul>		
Social	<ul> <li>Ensure locals enjoy priority in terms of job opportunities, to the extent possible, for skills that are available locally.</li> <li>Ensure local procurement where commodities are available locally.</li> </ul>		

#### 5.3 OPERATION AND MAINTENANCE PHASE

The management actions included in Table 5-3 below apply during the operation and maintenance phase of this development.

**Table 5-3:** Operation and maintenance management actions

OPERATIONAL PHASE IMPACTS		
Impact	Mitigation Measures	
Surface and Ground	A no-go buffer area of at least 30 m should be allocated to any water bodies in the area.	
Water	No dumping of waste products of any kind in or in close proximity to any water bodies.	
	Contaminated runoff from the various operational activities should be prevented from entering any water bodies.	
	Ensure that surface water accumulating on-site are channelled and captured through a proper storm water	
	management system to be treated in an appropriate manner before disposal into the environment.	
	Ensure treatment of wastewater before it is discharged in the municipal sewer system	
	Wastewater should not be discharged directly into the environment.	
	Disposal of waste from the development should be properly managed.	
	The service infrastructure should be designed and constructed by suitably qualified engineering professionals.	
	Develop and implement a preventative maintenance plan for the service infrastructure.	
Visual and Sense of Place	It is recommended that more 'green' technologies be implemented within the architectural designs and building	
	materials of the development where possible in order to minimise the visual prominence of such a development	
	within the more natural surrounding landscape.	
	Natural colours and building materials such as wood and stone should be incorporated.	
	Visual pollutants can further be prevented through mitigations such as keeping existing vegetation, introducing	
	indigenous trees; keeping structures unpainted and minimising large advertising billboards).	
Noise	All areas where noise levels are above 85 dB should be managed and controlled in accordance with the Labour	
	Act.	
	Continuous monitoring of noise levels should be conducted to make sure the noise levels do not exceed	
	acceptable limits.	
	No activity having a potential noise impact should be allowed after 18:00 if possible.	

OPERATIONAL PHASE IMPACTS		
Impact	Mitigation Measures	
	Employees working in industries generating high levels of noise should be encouraged to wear protective equipment such as ear muffs and ear plugs.	
Air quality	<ul> <li>Consider tarring of the internal road network.</li> <li>Manage activities that generate emissions or dust.</li> <li>Ensure that industrial activities generating emissions are equipped with pollution controlling technologies to decrease the emissions of potentially toxic chemicals.</li> <li>The development needs to be controlled and managed as required by the Public Health Act (Act No. 36 of 1919) and Atmospheric Pollution Prevention Ordinance (No. 11 of 1976).</li> <li>It is advised to pave the internal road network.</li> </ul>	
Waste management	<ul> <li>Develop an industrial waste management plan.</li> <li>Segregate and classify waste.</li> <li>Develop and implement a comprehensive training and awareness program to ensure that staff are aware of all established procedures governing disposal of industrial waste including handling, and proper maintenance of disposal facilities.</li> <li>A sufficient number of waste bins should be placed on the properties for the soft refuse.</li> <li>A sufficient number of skip containers for the heavy waste and rubble should be provided for at appropriate sites.</li> <li>The waste containers should be able to be closed to prevent birds and other animals from scavenging.</li> <li>Solid waste will be collected and disposed off at an appropriate local municipal landfill in the city, this should be done in consultation with the local authority.</li> </ul>	
Quality of life Infrastructure development	The industrial developments will greatly contribute to the well being and quality of life of the Windhoek residents.  • Ensure that the infrastructure is designed and supervised by suitably qualified engineering professionals.	

#### 5.4 DECOMMISSIONING PHASE

The decommissioning of this development is not foreseen. In the event that this development is decommissioned the following management actions in **Table 5-4** should apply.

 Table 5-4:
 Decommissioning phase management actions

Environmental Feature	Management Actions
Deconstruction	Many of the mitigation measures prescribed for construction activity
activity	for this development ( <b>Table 5-2</b> above) would be applicable to some of the decommissioning activities. These should be adhered to where applicable.
Rehabilitation	In the event that decommissioning is deemed necessary, excavations need to be rehabilitated according to the management actions laid out in <b>Table 5-2</b> above.

#### Appendix A - Property Development Environmental Management Plan

This Property Development Environmental Management Plan will form part of every Deed of Sale or lease agreement to be entered into between the Tuye Buco and purchasers of the individual erven in the new consolidated erf. It is proposed that the Developer commission a tree survey preferably with the assistance of a specialist in vegetation to identify the individual trees that will be kept.

Environmental feature	Mitigation measure
Windhoek Aquifer	<ul> <li>Purchaser/Lessee is informed that the property lies on the Windhoek Aquifer, which is an important and sensitive water source for the Windhoek population.</li> </ul>
	<ul> <li>Purchaser/Lessee shall endeavour at all times not to act or engage in activities that will put the aquifer at risk of pollution/ contamination.</li> </ul>
Conservation of vegetation	<ul> <li>All trees listed (with co-ordinates provided) in the title deed/lease agreement for this erf should be conserved as far as practicably possible. These trees should be incorporated into the planning layout of any structures to be erected on this erf.</li> <li>Where listed trees cannot be accommodated by the planned structures to be built, written motivation should be submitted to the Windhoek Municipality requesting permission to remove such trees. Only once a permit has been received from the municipality may the owner of the erf remove affected trees.</li> </ul>
Health and safety	No human waste may be expelled on open soil. Every construction site should have at least one portable toilet.
	<ul> <li>Only one or two security guards may reside/sleep on-site during construction. No other construction personnel may sleep/reside on-site.</li> </ul>
	<ul> <li>No open fires may be made anywhere on-site during the construction period. Heating and cooking facilities (where necessary/applicable) should be provided by the Contractor.</li> </ul>
Waste management	<ul> <li>The waste container of portable toilets should be emptied on a regular basis to avoid overflows. Waste from portable toilets should be removed to the Windhoek Municipality wastewater treatment facility.</li> </ul>
	<ul> <li>All waste should be placed in the appropriate waste containers on a daily basis.</li> </ul>
	<ul> <li>All waste on-site should be removed on a weekly basis.</li> <li>Concrete should not be mixed on open soil. Concrete should be mixed on an impermeable (i.e. lined) surface.</li> </ul>

# Appendix B - Water Quality Guidelines

# Appendix B - Environmental Clearance Certificate