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# REPORT:

## COMPLIANCE REPORT FOR THE FIBRE OPTIC CABLE BETWEEN WALVIS BAY AND BUIITEPOS – NAMIBIA

PROJECT NUMBER: ECC-45-526-REP-02-D

REPORT VERSION: REV 01

DATE: 21 OCTOBER 2024



**TITLE AND APPROVAL PAGE**

Project Name: Compliance report for the fibre optic cable between Walvis Bay  
and Buitepos – Namibia

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Ministry Reference: APP - 004821

Status of Report: Final for submission

Project Number: ECC-45-526-REP-02-D

Date of issue: 21 October 2024

Review Period N/A

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## ABBREVIATIONS

Abbreviation	Description
Db	decibel
DEA	Directorate of Environmental Affairs
ECC	Environmental Compliance Consultancy
ECC	environmental clearance certificate
EIA	environmental impact assessment
EMP	environmental management plan
GIS	Geographic information system
ICNIRP	Commission of Non-Ionizing Radiation Protection
IEEE	Institute of Electrical and Electronics Engineers
IFC	International Finance Corporation
km	kilometres
Ltd.	limited
m	metre
MEFT	Ministry of Environment, Forestry and Tourism
MSDS	material safety data sheets
NHC	National Heritage Council
No	number
PM	particulate matter
PPE	personnel protective equipment
Pty	proprietary
Reg	registration
SDWAN	software-defined wide area network

# 1 INTRODUCTION

## 1.1 BACKGROUND INFORMATION

Paratus Telecommunications (Pty) Ltd (herein referred to as the 'Proponent' or 'Paratus') is a multinational organisation and Africa's largest infrastructure network, offering comprehensive satellite services for almost 20 years. Paratus provides fibre, wireless, satellite and software-defined wide area network (SDWAN) solutions that are advanced enough to support customers, ranging from personal use to large enterprises.

Paratus fibre network connects the African east and west coast, from Swakopmund in Namibia to Dar es Salaam in Tanzania. There are currently approximately 10 000 km of fibre under Paratus management.

An environmental management plan (EMP) (Appendix A) was submitted in April 2017 to the Ministry of Environment, Forestry and Tourism (MEFT), to support the application for an environmental clearance certificate for the installation of a fibre optic telecommunication cable between Walvis Bay and Buitepos. The EMP was approved for the Project, in line with the approved environmental clearance certificate (Appendix B), dated 31 May 2017.

Figure 1 provides a locality map of the existing fibre optic telecommunication cable between Walvis Bay and Buitepos in the Erongo, Otjozondjupa, Omaheke and Khomas Regions of Namibia.





Figure 1 – Locality map of the Project

## 1.2 PURPOSE OF THIS DOCUMENT

Environmental Compliance Consultancy (ECC) has been engaged by Paratus, to prepare the application to renew the environmental clearance certificate for the installation of a fibre optic telecommunication cable between Walvis Bay and Buitepos. The environmental clearance certificate expired on 31 May 2020. As part of this application, an environmental compliance desktop audit has been undertaken to determine the status of compliance with the EMP commitments from May 2017 to September 2024. The EMP has also been revised and updated, to reflect current operational requirements.

## 1.3 PROPONENT DETAILS

The Proponent's details are set out in Table 1.

**Table 1 – Proponent details**

Contact	Postal Address	Email Address	Telephone
Mr. Gerrit Pheiffer Manager: Project & Fibre Planning	P.O. Box 90140 Windhoek Namibia	<a href="mailto:gerrit.pheiffer@paratus.africa">gerrit.pheiffer@paratus.africa</a>	Tel: +264 83 300 1000

## 1.4 ENVIRONMENTAL ASSESSMENT PRACTITIONER

Environmental Compliance Consultancy (ECC) (Reg. No. 2022/0593) has prepared this renewal report on behalf of the Proponent.

This report has been authored by employees of ECC, who have no material interest in the outcome of this report, nor do any of the ECC team have any interest that could be reasonably regarded as being capable of affecting their independence in the preparation of this report. ECC is independent from the proponent and has no vested or financial interest in the project, except for fair remuneration for professional fees rendered based upon agreed commercial rates. Payment of these fees is in no way contingent on the results of this report or the assessment, or a record of decision issued by Government. No member or employee of ECC is, or is intending to be, a director, officer, or any other direct employee of The Proponent. No member or employee of ECC has, or has had, any shareholding in the Proponent.

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## **2 BACKGROUND TO THE PROJECT**

Paratus installed an aboveground fibre optic cable along the existing railway and infrastructure along the B2, B1 and B6 roads from Walvis Bay to Buitepos, Namibia, stretching approximately ~750 km. The fibre optic cable is routed underground in the towns and cities it traverses. Paratus installed new poles where poles were missing or damaged. A vertebrate fauna and flora desktop study for the proposed Project site was conducted by Dr. Peter Cunningham to establish possible impacts on fauna and flora phenomenon in the area prior to the installation project. The exact right of way will be passing along an already degraded railway and using existing infrastructure such that there will be no direct impact on fauna and flora in the area. Additionally, a supporting letter from Transnamib Holdings (Pty) Ltd and the Office of the Attorney General can be seen in Appendix C.

The EMP is the binding document to which a clearance certificate is granted to a Proponent to carry out a proposed activity. This document is subjected to periodic auditing as the activities transition throughout the Project phases. The EMP is audited to monitor the progress of the Project and ensure that all measures stipulated in the document are met and effectively adhered to as required by the Department of Environmental Affairs (DEA). In an event where the Project activities alter, the EMP is required to be amended accordingly.

### **2.1 RENEWAL ACTIVITIES**

The following are the activities associated with the operational and maintenance stages of the fibre optic cables that could potentially have an impact on the biophysical and social environments:

- Operations and associated activities of the installed fibre optic cables; and
- Maintenance of the optic fibre cables and existing infrastructure.

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## 3 ENVIRONMENTAL COMPLIANCE AUDIT

### 3.1 SITE ACTIVITIES

#### 3.1.1 ACTIVITIES CARRIED OUT FOR THE PERIOD OF MAY 2017 TO SEPTEMBER 2024

The following activities were undertaken for the period May 2017 – September 2024:

- Installation of the fibre optic cables;
- Maintenance of the fibre optic cables and infrastructure annually or as required;
- Removal of all temporary works; and
- Restoration and reinstatement of the affected environment in the appropriate manner.

### 3.2 ENVIRONMENTAL MANAGEMENT PLAN AND AUDITING

The approved EMP covers all adverse environmental impacts, including any additional potential impacts that may result from the Paratus fibre optic cable operations and closure between Walvis Bay and Buitepos. The EMP provides the technical details for each mitigation, monitoring and institutional measure, including the impact(s) to which it relates and the conditions when required, together with designs, equipment descriptions and operating procedures as granted. The EMP was revised and updated as part of this application, to reflect current operational requirements.

### 3.3 COMPLIANCE AUDIT FINDINGS

This section outlines the findings of environmental audits (physical or desktop) during the period of review of the Paratus fibre optic cable between Walvis Bay and Buitepos. It addresses obligations in terms of the key Acts that govern the activities on site, the commitments made in the EMP and presents the findings and recommended corrective actions where applicable (Table 2).

The EMP therefore:

- Identifies all construction, operational and maintenance activities that could cause environmental damage (aspects and potential impacts) and provides a summary of actions required;
- Identifies institutions responsible for ensuring compliance with the EMP and provides their contact information;
- Provides standard procedures to avoid, minimise and mitigate the identified negative environmental impacts and to enhance the positive impact of the proposed activities on the environment;
- Forms a written record of procedures, responsibilities, requirements and rules for contractor/s, their staff and any other person who must comply with the EMP;
- Ensure zero pollution incidents; protect local flora, fauna, and water resources; and water use and other natural resources effectively and efficiently;

- 
- Provides a monitoring and auditing programme to track and record compliance and identify and respond to any potential or actual negative environmental and social impacts;
  - Provides a monitoring programme to record any mitigation measures that are implemented;
  - Ensure that regular environmental audits are carried out by an experienced environmental control officer where appropriate; and
  - Once operations have ceased, any impacts shall be rehabilitated.

### 3.4 ISSUES OF NON-COMPLIANCE

No issues of non-compliance were identified.

## 4 EMP COMPLIANCE AUDIT

Table 2 provides an overview of the compliance with EMP requirements as depicted in the approved EMP for the general conduct and site management, construction, operations and maintenance management of the fibre optic cables installation between Walvis Bay and Buitepos.

**Table 2 – General conduct and site management, construction, operations and maintenance management EMP compliance audit**

Aspect	Potential impacts	Management/mitigation measures	Compliance	Comments
<b>Landscape, biophysical and social environment</b>	Potential impacts related to Roadside Camps	<ul style="list-style-type: none"> <li>Workers may not bring pets onto the construction site or to the fly camp.</li> <li>Trespassing on properties adjoining the railway servitude is forbidden.</li> <li>Workers may not harvest firewood from the site or from the areas adjacent to it.</li> <li>The campsite must be kept clean to minimise the visual impact of the site and minimise vermin and pests. Litter and waste management measures must be adhered to at all times.</li> <li>Workers may not construct snares or catch wildlife in any other way.</li> <li>Construction staff must make use of the facilities and equipment provided for them. No ad-hoc alternatives allowed e.g. fires for cooking; the use of surrounding bush as a toilet.</li> </ul>	– Compliant	<ul style="list-style-type: none"> <li>The Proponent ensured campsite selection and management prior to construction occurred as per the EMP.</li> <li>No non-conformances reported.</li> </ul>
<b>Noise</b>	Possible Noise pollution during construction and	<ul style="list-style-type: none"> <li>Machinery and vehicles are to be kept in good working order for the duration of the project to minimise noise impact.</li> <li>Notice of particularly noisy activities must be given when the construction site is close to inhabited areas.</li> <li>Noise from roadside camps must not be disturbing or offensive to local communities.</li> </ul>	– Compliant	<ul style="list-style-type: none"> <li>The Proponent adhered to this component of the EMP.</li> </ul>

Aspect	Potential impacts	Management/mitigation measures	Compliance	Comments
	maintenance activities			
<b>Environment</b>	Rehabilitation related to potential damage from construction and maintenance activities.	<ul style="list-style-type: none"> <li>– The contractor should repair any damage that the construction works have caused to neighbouring properties (e.g. repair fences).</li> <li>– Areas that have been disturbed during construction must be progressively revegetated.</li> <li>– All structures comprising the construction camp are to be removed from site.</li> <li>– Fences, barriers and demarcations associated with the construction phase are to be removed from the site.</li> <li>– All waste and rubble must be removed from the site.</li> </ul>	– <b>Compliant</b>	<ul style="list-style-type: none"> <li>– The Proponent adhered to this component of the EMP.</li> <li>– Camps were cleaned after use.</li> </ul>
<b>Health and safety</b>	Potential for injuries during construction and maintenance	<ul style="list-style-type: none"> <li>– All on-site personnel (including visitors) must use be issued with and wear the following minimum personal safety equipment at all times:</li> <li>– Safety hat</li> <li>– Safety footwear with steel toe protection</li> <li>– Safety glasses with side shields</li> <li>– Prescription glasses must comply with the same standard or impact safety spectacles must be worn over them</li> <li>– Suitable protective clothing (overalls for all employees involved in manual labour / Long trousers and long sleeves for visitors)</li> <li>– Safety vests and reflective taping as required</li> <li>– Hearing and respiratory protection as required</li> <li>– Hand protection as required</li> </ul>	– <b>Compliant</b>	<ul style="list-style-type: none"> <li>– Health and safety measures were adhered to.</li> <li>– The Proponent complied with all applicable Namibian laws related to health and safety.</li> <li>– Appropriate PPE was used.</li> </ul>

Aspect	Potential impacts	Management/mitigation measures	Compliance	Comments
		<ul style="list-style-type: none"> <li>– Ensure adequate and functional equipment, stability and safe practices in all aspects of installation operations and site activities</li> <li>– Construction material and equipment must be stacked and stored in a neat, safe and accessible manner, in an area demarcated by the Client, Client representative or Consultant.</li> </ul>		<ul style="list-style-type: none"> <li>– Vehicles were serviced regularly.</li> </ul>
	Potential injuries during construction and maintenance	<ul style="list-style-type: none"> <li>– Suitable and adequate personal protective equipment (PPE) should be issued prior to the commencement of any work.</li> <li>– Replacement PPE must be issued. A signed register must be kept recording such replacements.</li> <li>– Ensure adequate and functional equipment, stability and safe. practices in all aspects of installation operations and site activities.</li> </ul>	– Compliant	
	Potential health and safety impacts when welding	<ul style="list-style-type: none"> <li>– Hard hats with fixed side knobs</li> <li>– Impact spectacles &amp; welding hood</li> <li>– Spats/apron/yoke/respirator</li> <li>– Welding gloves</li> <li>– Knee pads for welders kneeling</li> <li>– Steel toe cap safety boots / shoes</li> </ul>	– Compliant	
	Potential health and safety impacts during gas cutting reaming	<ul style="list-style-type: none"> <li>– Hard hats with fixed side knobs</li> <li>– Impact spectacles &amp; full face visor (reaming)</li> <li>– Front flip goggles (gas cutting)</li> <li>– Spats and apron</li> <li>– Cutting/welding gloves</li> <li>– Steel toe cap safety boots / shoes</li> </ul>	– Compliant	

Aspect	Potential impacts	Management/mitigation measures	Compliance	Comments
	Potential health and safety impacts when grinding	<ul style="list-style-type: none"> <li>– Hard hats with fixed side knobs</li> <li>– Impact spectacles &amp; full face visor</li> <li>– Hand Protection as required</li> <li>– Spats and Apron</li> <li>– Steel toe cap safety boots / shoes</li> <li>– Ear-plugs for noise exceeding 85 Db</li> <li>– Nuisance dust masks – 3M Standard</li> </ul>	– Compliant	
	Potential health and safety impacts during construction and maintenance	<ul style="list-style-type: none"> <li>– Applicable gloves to be worn for all hand operations</li> <li>– Termination of cables – glass cutting gloves</li> <li>– Using a stanley knife - glass cutting gloves</li> <li>– Welding - welding gloves</li> <li>– Gas/argon cutting – welding gloves</li> <li>– Gloves for artisans and helpers</li> </ul>	– Compliant	
	Potential health and safety impacts when working with Hazardous materials	<ul style="list-style-type: none"> <li>– There must be an approved and legally appropriate policy for the use, transportation, handling and storage of fuel and hazardous materials.</li> <li>– No chemical, which is potentially hazardous, may be brought onto the site without prior acknowledgement from the client or the client's nominated representative.</li> <li>– All hazardous materials and waste products must be disposed of in accordance with applicable laws and regulations or in accordance with generally approved practices.</li> </ul>	– Compliant	
	Potential health and safety	<ul style="list-style-type: none"> <li>– Vehicles travelling to and from the construction site along the identified routes must adhere to speed limits so as to avoid producing excessive dust.</li> </ul>	– Compliant	



Aspect	Potential impacts	Management/mitigation measures	Compliance	Comments
	impacts from dust and fumes	<ul style="list-style-type: none"> <li>– Vehicles and machinery are to be regularly serviced according to the manufacturers' specifications and kept in good working order so as to minimise exhaust emissions.</li> </ul>		
<b>Vegetation</b>	Clearing of vegetation	<ul style="list-style-type: none"> <li>– Progressively revegetate areas disturbed during construction</li> </ul>	– N/A	
<b>Landscape, biophysical and social environment</b>	Lack of pollution control measures	<ul style="list-style-type: none"> <li>– Visual monitoring and photographic record of any surface and/or groundwater intersected during cable installation operations.</li> <li>– Visual monitoring during rainfall events for runoff of polluted water</li> <li>– Cooking oil and chemically laden water must not be disposed of into surface water sources or into the bush.</li> <li>– Vehicles and machinery are to be regularly serviced to minimise oil and fuel leaks.</li> <li>– Chemicals, oil and fuel must be stored securely to prevent any accidental spills.</li> </ul>	– Compliant	<ul style="list-style-type: none"> <li>– The Proponent adhered to these components of the EMP.</li> <li>– Vehicles were regularly serviced.</li> </ul>
	Sewage and greywater spills or leakages	<ul style="list-style-type: none"> <li>– Portable chemical toilets are to be provided for the construction works.</li> <li>– Portable toilets are to be cleaned on a regular basis. No sewage may be discharged directly onto open soil.</li> <li>– If grey water is not recycled on site it should be removed along with the black water as the campsite moves along the cable route.</li> </ul>	– Compliant	
<b>Soils and environment</b>	Soil erosion	<ul style="list-style-type: none"> <li>– Vegetation must not be cleared unless absolutely necessary for the safe completion of the cable installation.</li> <li>– Visual monitoring and photographic record of any surface disturbance and clearing during cable installation operations</li> </ul>	– Compliant	<ul style="list-style-type: none"> <li>– The Proponent adhered to the mitigation</li> </ul>

Aspect	Potential impacts	Management/mitigation measures	Compliance	Comments
		<ul style="list-style-type: none"> <li>Visual monitoring and photographic record of any soil disturbance and removal (pole holes) during cable installation operations.</li> <li>Soils that have been compacted at camps, by bulk storage and by machinery, should be ripped upon completion of cable installation and when the camp moves on to the next site.</li> <li>Exposed soils should be immediately rehabilitated upon completion of cable installation through the replanting of vegetation. A photographic record can be kept.</li> </ul>		<p>measures of the EMP.</p> <ul style="list-style-type: none"> <li>Vehicles were serviced regularly.</li> </ul>
	Soil mixing	<ul style="list-style-type: none"> <li>A photographic record should be kept of soil removal during construction and subsequent replacement thereafter.</li> <li>Store removed soil to the side of the hole for back filling. Store different soil types in different piles and replace in correct order.</li> </ul>	– Compliant	
	Contamination and pollution control measures not adequately in place	<ul style="list-style-type: none"> <li>Chemicals, oil and fuel must be stored securely to prevent any accidental spills.</li> <li>Portable chemical toilets are to be provided for the construction workers.</li> <li>Vehicles and machinery are to be regularly serviced to minimise oil and fuel leaks.</li> </ul>	– Compliant	
	Potential of surface or ground water contamination from cement	<ul style="list-style-type: none"> <li>Cement mixing should take place on plastic liners to avoid contamination of surface and ground water.</li> <li>Cleaning of cement mixing equipment shall only be done using proper cleaning trays</li> <li>Ready mix concrete should be used where possible and where agreed upon by the contractor,</li> </ul>	– Compliant	

Aspect	Potential impacts	Management/mitigation measures	Compliance	Comments
		<ul style="list-style-type: none"> <li>All excess cement and concrete mixes are to be contained on the construction site prior to disposal off site.</li> </ul>		
<b>Landscape, biophysical and social environment</b>	Hazardous chemicals not appropriately stored on impervious services	<ul style="list-style-type: none"> <li>Hazardous chemicals are to be stored in bunded areas.</li> <li>Hazardous chemicals (such as fuels) are to be handled over areas provided with impervious surfaces.</li> <li>Spills of hazardous chemicals are to be contained and cleaned-up to ensure protection of the environment.</li> <li>All the necessary PPE required for the safe handling and use of petrochemicals and oils shall be provided to, and used or worn by, the onsite staff</li> </ul>	– Compliant	<ul style="list-style-type: none"> <li>Vehicles were serviced regularly.</li> <li>Required PPE was provided during the construction phase.</li> </ul>
	Machinery and Equipment maintenance	<ul style="list-style-type: none"> <li>Major servicing of equipment shall be undertaken offsite in appropriately equipped workshops. Major repairs are not to occur on site.</li> <li>For small repairs and required maintenance activities all reasonable precautions to avoid oil and fuel spills must be taken (e.g. spill trays, impervious sheets).</li> <li>Vehicles and machinery are to be regularly serviced to minimise oil and fuel leaks.</li> <li>All the necessary PPE required for maintenance activities must be issued to staff whose duty it is to manage and maintain the machinery and equipment.</li> </ul>	– Compliant	<ul style="list-style-type: none"> <li>No hazardous chemicals was used.</li> </ul>
<b>Biodiversity and Environment</b>	Removing or cutting trees	<ul style="list-style-type: none"> <li>Permit for removal of protected and unique species.</li> <li>A photographic record shall be kept of “before” and “after” removal and/or cutting or any trees.</li> </ul>	– Compliant	<ul style="list-style-type: none"> <li>The Proponent adhered to the mitigation</li> </ul>

Aspect	Potential impacts	Management/mitigation measures	Compliance	Comments
		<ul style="list-style-type: none"> <li>As far as possible, contractors are advised to avoid removing any trees along the routes. They should rather trim them. Only where trees are directly obstructing the line and there is no alternative, should they be cut down completely.</li> </ul>		<ul style="list-style-type: none"> <li>measures of the EMP.</li> </ul>
	Clearing vegetation without the required permits	<ul style="list-style-type: none"> <li>The clearing of vegetation may not be undertaken without the prior permission of the local authority.</li> <li>The clearing of vegetation should be discussed with local landowners.</li> <li>A photographic record shall be kept of “before” and “after” any vegetation clearing.</li> <li>Progressively revegetate areas disturbed during construction.</li> </ul>	– Compliant	<ul style="list-style-type: none"> <li>The mitigation measures provided in the biodiversity specialist study were adhered to.</li> </ul>
	Potential damage to soil and vegetation from stockpiles	<ul style="list-style-type: none"> <li>Stockpiles of poles should be placed only on areas already disturbed (e.g. sidings) and not on any vegetated areas, grasslands or ephemeral drainages. Particular care should be taken not to damage lichens.</li> </ul>	– Compliant	<ul style="list-style-type: none"> <li>Installation of the fibre optic cable occurred in already disturbed areas.</li> </ul>
	Vegetation removal	<ul style="list-style-type: none"> <li>No firewood, fruit, medicinal plants or any other natural material may be collected, consumed or removed from site by the contractor or their personnel along the route.</li> <li>Any individual caught collecting plants shall be removed from the site for the duration of the contract.</li> <li>In some cases, such collection or removal of plants without permission of the relevant authority may lead to criminal proceedings being initiated against an individual and/or the contracting company.</li> </ul>	– Compliant	

Aspect	Potential impacts	Management/mitigation measures	Compliance	Comments
		<ul style="list-style-type: none"> <li>The Contractor must monitor the performance of construction workers to ensure that the points relayed during their induction have been properly understood and are being followed.</li> </ul>		
	Introduction of weeds or alien species	<ul style="list-style-type: none"> <li>Grasses, seeds, roots or tree pods from somewhere other than the current operational site may not be disposed of at the camp or construction site or the surrounding areas (particular attention must be paid to imported material).</li> <li>Vehicles and staff should not carry grass, seeds, plants or pods across different environmental regions along the cable route. (Particular attention must be paid to imported material).</li> <li>The contractor must monitor the performance of construction workers to ensure that the points relayed during their induction have been properly understood and are being followed.</li> </ul>	– Compliant	
	Clearing of vegetation	<ul style="list-style-type: none"> <li>Issue internal land clearing permits and monitor compliance thereof.</li> <li>Issue weed and seed inspection certificates for each piece of equipment used on the project and monitor compliance thereof.</li> </ul>	– N/A	
	Removing or cutting trees	<ul style="list-style-type: none"> <li>Permit for removal of protected and unique species.</li> <li>A photographic record shall be kept of “before” and “after” removal and/or cutting or any trees.</li> <li>As far as possible, contractors are advised to avoid removing any trees along the routes. They should rather trim them. Only where trees are directly obstructing the line and there is no alternative, should they be cut down completely.</li> </ul>	– Compliant	<ul style="list-style-type: none"> <li>The Proponent adhered to the mitigation measures of the EMP.</li> <li>The mitigation measures</li> </ul>

Aspect	Potential impacts	Management/mitigation measures	Compliance	Comments
	Relocation of Nests	<ul style="list-style-type: none"> <li>– The clearing of vegetation may not be undertaken without the prior permission of the local authority.</li> <li>– Any relocation of nests must be discussed with the Environmental Officer.</li> <li>– A photographic record shall be kept of “before” and “after” any relocation.</li> <li>– Dummy structures can be installed to provide safe alternate nesting facilities.</li> </ul>	– Compliant	provided in the biodiversity specialist study were adhered to.
	Fauna on-site	<ul style="list-style-type: none"> <li>– No animals or birds may be collected, caught, consumed or removed from site by the contractor or their personnel along the route.</li> <li>– Snares and traps on site and in surrounding areas are strictly forbidden.</li> <li>– Any individual caught catching animals or birds shall be removed from the site for the duration of the contract.</li> <li>– In some cases, such collection or capture of animals, reptiles or birds without permission of the relevant authority may lead to criminal proceedings being initiated against an individual and/or the contracting company.</li> <li>– No animals or birds may be brought onto the site from other areas.</li> <li>– The contractor must monitor the performance of construction workers to ensure that the points relayed during their induction have been properly understood and are being followed.</li> </ul>	– Compliant	
<b>Landscape, biophysical</b>	Environmental contamination	<ul style="list-style-type: none"> <li>– Hydrocarbon and chemical contaminated solids must be storage correctly and disposed of by registered companies.</li> </ul>	– Compliant	– A waste management

Aspect	Potential impacts	Management/mitigation measures	Compliance	Comments
<b>and social environment</b>	from liquid waste	<ul style="list-style-type: none"> <li>– Safe disposal certificates must be kept and provided to the Project manager on request.</li> </ul>		plan was provided and made available on-site during construction.
	Littering and environmental contamination from waste	<ul style="list-style-type: none"> <li>– No littering by construction workers shall be allowed.</li> <li>– All litter throughout the site and along the route should be picked up and placed in the bins provided.</li> <li>– The construction site should be kept tidy and free of litter at all times. All domestic and general construction waste produced on a daily basis should be cleaned and contained daily. If necessary, the contractor must hire someone to clear the site of litter every day.</li> <li>– No solid waste landfill will be established at the site. Designated solid waste storage areas should be established and maintained.</li> <li>– No waste shall be burned or buried anywhere unless when advised to do so by the local Municipality.</li> <li>– Recycling bins will be provided in appropriate areas to enable waste and refuse to be sorted for recycling and re-use. Bins must be baboon proof.</li> <li>– All solid waste must be collected, recycled where possible, and otherwise disposed of by appropriately licensed disposal teams.</li> <li>– No waste may remain on site after the completion of the Project.</li> <li>– All rubble is to be removed from the site to an approved disposal site. Burying of rubble on site is prohibited.</li> </ul>	– Compliant	
<b>Heritage and archaeology</b>	Prevent and avoid impacts	<ul style="list-style-type: none"> <li>– All finds or evidence of archaeological material will result in suspension of land disturbance activities until verified by an archaeologist and clearance is obtained.</li> </ul>	– Compliant	– The Proponent adhered to this



Aspect	Potential impacts	Management/mitigation measures	Compliance	Comments
	of heritage values	<ul style="list-style-type: none"> <li>– Ensure all personnel are inducted regarding their heritage responsibilities under the relevant legislation.</li> <li>– Avoid disturbance of all areas outside the installation site and campsite.</li> <li>– Inspect surfaces for evidence of archaeological material prior to land disturbance activities.</li> <li>– Should a heritage site or archaeological site be uncovered or discovered during the construction phase of the project, a “chance find” procedure should be applied in the order shown below: <ul style="list-style-type: none"> <li>– Stop operating machinery or equipment;</li> <li>– Demarcate the site with danger tape;</li> <li>– Determine GPS position if possible;</li> <li>– Report findings to Project Manager;</li> <li>– Project Manager to determine whether work can proceed without damage to findings;</li> <li>– Site location and details to be added to the Project’s geographic information system (GIS) for field confirmation by archaeologist;</li> <li>– Inspect site and confirm addition to project GIS;</li> <li>– Advise the National Heritage Council (NHC) and request written permission to remove findings from work area; and</li> <li>– Recovery, packaging and labelling of findings for transfer to National Museum.</li> </ul> </li> </ul>		component of the EMP.

## **5 CONCLUSION**

No complaints or non-conformances were recorded during the reporting period.

The operation and maintenance of the installed fibre optic cable shall be carried out in compliance with the relevant requirements and conditions of the granted environmental clearance certificate in accordance with the approved EMP.

It is recommended that the Proponent continues to adhere to all environmental legislation and company standards to ensure that best practical environmental protection continues.

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## **APPENDIX A – ENVIRONMENTAL MANAGEMENT PLAN**

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## **APPENDIX B – CURRENT ENVIRONMENTAL CLEARANCE CERTIFICATE**

## **APPENDIX C – TRANSNAMIB AND ATTORNEY GENERAL LETTERS**