DRAFT SECTION 24G REPORT

Proposed Rectification in Terms of Section 24G of National Environmental Management Act (NEMA, Act 107 of 1998) for the Unlawful Activities on the Rem of Erf 196, Portion 1 of Erf 196, Rem of Erf 197 and Erf 198, Ashburton, KwaZulu-Natal

GDE PROJECT NO.: GDE324
REFERENCE NO.: DC22/S24G/0003/2023
APPLICANT: Movito (Pty) Ltd.
DATE: 22 June 2023
VERSION: Revision 2

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EXECUTIVE SUMMARY

The Applicant, Movito (Pty) Ltd, wishes to apply for the continuation of activities in terms of the Environmental Impact Assessment (EIA) Regulations and Section 24G of the National Environmental Management Act (NEMA, Act No. 107 of 1998) for the unauthorized activities on the Remainder of Erf 196, Portion 1 of Erf 196, the Remainder of Erf 197, Erf 198, Ashburton, KwaZulu-Natal, within the Msunduzi Local and uMgungundlovu District Municipality, KwaZulu-Natal.

In terms of the National Environmental Management Act (NEMA), Act 107 of 1998, and the Environmental Impact Assessment (EIA) Regulations of 2014 (as amended 2017 & 2021), published in Government Notice Regulation (GNR) 324, 325 and 327 of 2014 (as amended 2017 & 2021), certain Listed Activities require either a Basic Assessment (BA) Process (GNR 324 and GNR 327) or a Scoping and EIA Process (GNR 325) to be undertaken for Environmental Authorisation (EA). The proposed activities would have triggered the following Listed Activities which require a BA Process to be undertaken.

Indicate the number of the relevant Government Notice:	**Activity No (s) (relevant notice): e.g. Listing notices 1, 2 or 3**	**Describe each listed activity as per the wording in the listing notices as well as per the proposed activity:**
GNR 327	**Activity 12:** *"The development of—* *(i) dams or weirs, where the dam or weir, including infrastructure and water surface area, exceeds 100 square metres; or* ***(ii) infrastructure or structures with a physical footprint of 100 square metres or more;*** ***where such development occurs—*** ***(a) within a watercourse;*** *(b) in front of a development setback; or* ***(c) if no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse; —*** *excluding—* *(aa) the development of infrastructure or structures within existing ports or harbours that will not increase the development footprint of the port or harbour;* *(bb) where such development activities are related to the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies;* *(cc) activities listed in activity 14 in Listing Notice 2 of 2014 or activity 14 in Listing Notice 3 of 2014, in which case that activity applies;* *(dd) where such development occurs within an urban area;*	**This activity is applicable as the development occurs within 32 m of a watercourse.**

	(ee) where such development occurs within existing roads, road reserves or railway line reserves; or *(ff) the development of temporary infrastructure or structures where such infrastructure or structures will be removed within 6 weeks of the commencement of development and where indigenous vegetation will not be cleared."*	
GNR 327	**Activity 19:** *""The infilling or depositing of any material of more than 10 cubic metres into, or the dredging, excavation, removal or moving of soil, sand shells, shell grit, pebbles or rock of more than 10 cubic metres from a watercourse…."*	**The activity is applicable as a watercourse has been infilled.**
GNR 327	**Activity 27:** *""The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation…"*	**The activity is applicable as more than 1 ha of indigenous vegetation has been cleared on site.**
GNR 324	**Activity 4:** *"The development of a road wider than 4 metres with a reserve less than 13,5 metres.* *d. KwaZulu-Natal.* *xi. Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority.* *xii. Outside urban areas:* *(aa). Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any terrestrial protected area identified in terms of NEMPAA or from the core areas of a biosphere reserve..."*	**This activity is applicable as the internal roads have been developed that are wider than 4 m and the site is located within 5 km of the Mpushini Protected Area.**
GNR 324	**Activity 6:** *"The development of resorts, lodges, hotels, tourism or hospitality facilities that sleeps 15 people or more.* *d. KwaZulu-Natal.* *vii. Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans.* *xi. Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority."*	**This activity is applicable as 96 people will be able to sleep at the Hotel.**
GNR 324	**Activity 12:** "*The clearance of an area of 300 square metres or more of indigenous vegetation except where such clearance of indigenous vegetation…* *d. KwaZulu-Natal…* *v. Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans…*	**This activity is applicable as more than 300 m^2 of indigenous vegetation has been cleared and the site is located within a Critical Biodiversity Area and is within 5 km of the Mpushini Protected Area.**

	Xii. Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the act and as adopted by the competent authority…"	
GNR 324	**Activity 14:** *"The development of – …* *(i) Dams or weirs, where the dam or weir, including infrastructure and water surface area exceeds 10 square metres; or* *(ii) Infrastructure or structure with a physical footprint of 10 square metres or more;* *Where such development occurs –* *(a) Within a watercourse; …* *(b) If no development setback has been adopted, within 32 metres of a watercourse, measured from the edge of a watercourse…* *d. KwaZulu-Natal…* *vii. Critical biodiversity areas or ecological support areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans…"*	**This activity is applicable as a small watercourse was infilled to create a dam and the site is located in a Critical Biodiversity Area.**

On 04 November 2022, a Notice of Intention to issue a Compliance Notice was issued to the Applicant by the Department of Economic Development, Tourism and Environmental Affairs (DEDTEA) in terms of the NEMA. Green Door Environmental was appointed by the Applicant as the Environmental Assessment Practitioner (EAP) to address the abovementioned unlawful activities in terms of the NEMA. This Report has been compiled in accordance with the requirements set out in the EIA Regulations, 2014 (as amended 2017 and 2021), which are promulgated in terms of Section 24 (5) and 44 of the NEMA, as well as in terms of Section 24(G) of the NEMA, 1998.

The Applicant commenced with the construction of the following infrastructure and is approximately 2.91 ha in extent:

- Hotel accommodation able to sleep 96 people.
- Restaurant.
- Salon / health studio.
- Laundry.
- Gym and spa.
- Conference room.
- Thatch lapa.
- Access road and parking.

As part of the Environmental Assessment for this 24G Application Process, the following Specialist Studies have been undertaken to gain a full understanding of the impacts that have occurred as a result of the above activities. The studies are as follows:

- Biodiversity Assessment.
- Heritage Impact Assessment and Desktop Palaeontological Impact Assessment.
- Bulk and Internal Services Report.
- Geotechnical Assessment.
- Wetland Assessment.
- Traffic Impact Assessment.
- Stormwater Management Plan.

The most significant impacts identified by the specialists were a loss of indigenous vegetation, effects of stormwater runoff, and impacts associated with the four wetlands located on the property. This report summarises the findings of the specialist studies, as well as outlines their recommended mitigation measures.

The EAP concludes that no fatal flaws have been identified during the Section 24G Application Process, and provided that the Environmental Management Programme (EMPr) and recommendations made in this Report are strictly adhered to, the continued operation of the unlawful activities will not result in significant, detrimental impacts on the environment.

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LIST OF ACRONYMS & ABBREVIATIONS

BA	Basic Assessment
BAR	Basic Assessment Report
BID	Background Information Document
CA	Competent Authority
CBD	Central Business District
CER	Centre for Environmental Rights
DAFF	Department of Agriculture, Forestry and Fisheries
DARD	Department of Agriculture and Rural Development
DBAR	Draft Basic Assessment Report
DEA	Department of Environmental Affairs
DEA & DP	Department of Environmental Affairs and Development Planning
DEDTEA	KwaZulu-Natal Department of Economic Development, Tourism and Environmental Affairs
DEG	Digital Elevation Model
DoE	Department of Energy
DOJCD	Department of Justice and Constitutional Development
DoT	Department of Transport
DWS	Department of Water and Sanitation
EA	Environmental Authorisation
EAP	Environmental Assessment Practitioner
EAPASA	Environmental Assessment Practitioners Association of South Africa
ECO	Environmental Control Officer
EIA	Environmental Impact Assessment
EMF	Environmental Management Framework
EMPr	Environmental Management Programme
FBAR	Final Basic Assessment Report
GIS	Geographic Information Systems
GNR	Government Notice Regulation
HIA	Heritage Impact Assessment
I&AP	Interested and Affected Parties
IAIA	International Association for Impact Assessment
IDP	Integrated Development Plan
IEM	Integrated Environmental Management
IWMSA	Institute of Waste Management of Southern Africa
KZN	KwaZulu-Natal
MDGs	Millennium Development Goals
MPRDA	Mineral and Petroleum Resources Development Act
NDP	National Development Plan
NEMA	National Environmental Management Act
NEM:BA	National Environmental Management Biodiversity Act
NAM:PAA	National Environmental Management Protected Areas Act
NEM:WA	National Environmental Management Waste Act
NEM:WAA	National Environmental Management: Waste Amendment Act
NEM:AQA	National Environmental Management Air Quality Act
NFA	National Forests Act
NHRA	National Heritage Resources Act
NSDF	National Spatial Development Framework
NWA	National Water Act
OHSA	Occupational Health and Safety Act

PGDS	Provincial Growth and Development Strategy
PIS	Public Information Session
POPIA	Protection of Personal Information Act
PP	Public Participation
Pr.Sci.Nat.	Professional Natural Scientist
PSDP	Provincial Spatial Development Perspective
SAHRA	South African Heritage Resources Agency
SAIIEA	The South African Institute of International Affairs
SANBI	South African National Biodiversity Institute
SANS	South African National Standards
SDF	Spatial Development Framework
SIP	Strategic Integrated Project
SSAG	The Society of South African Geographers
UC	Urban Core
WISA	The Water Institute of Southern Africa
WUL	Water Use Licence

TERMINOLOGY

Term	Definition
Activity (Development)	An action either planned or existing that may result in environmental impacts through pollution or resource use. For the purpose of this report, the terms 'activity' and 'development' are freely interchanged.
Alternative	A possible course of action, in place of another, of achieving the same desired goal of the proposed project. Alternatives can refer to any of the following but are not limited to site alternatives, site layout alternatives, design or technology alternatives, process alternatives or a no-go alternative.
Applicant	The project proponent or developer responsible for submitting an environmental application to the relevant environmental authority for environmental authorisation.
Biodiversity	The diversity of animals, plants and other organisms found within and between ecosystems, habitats, and the ecological complexes.
Construction	means the building, erection or establishment of a facility, structure or infrastructure that is necessary for the undertaking of a listed or specified activity but excludes any modification, alteration or expansion of such a facility, structure or infrastructure and excluding the reconstruction of the same facility in the same location, with the same capacity and footprint.
Cumulative Impacts	Impacts that result from the incremental impact of the proposed activity on a common resource when added to the impacts of other past, present or reasonably foreseeable future activities to produce a greater impact or different impacts.
Direct impacts	Impacts that are caused directly by the activity and generally occur at the same time and at the same place of the activity. These impacts are usually associated with the construction, operation or maintenance of an activity and are generally quantifiable.
Ecological Reserve	The Ecological Reserve specifies both the quantity and quality of water that must be left in the national water resource. The Ecological Reserve is determined for all major water resources in the different water management areas to ensure sustainable development. The water that is necessary to protect the water ecosystems of the water resource. It must be safeguarded and not used for other purposes.
Ecosystem	A dynamic system of plant, animal (including humans) and micro-organism communities and their non-living physical environment interacting as a functional unit. The basic structural unit of the biosphere, ecosystems are characterised by interdependent interaction between the component species and their physical surroundings. Each ecosystem occupies a space in which macro-scale conditions and interactions are relatively homogenous.
Environment	In terms of the National Environmental Management Act (NEMA) (Act No 107 of 1998) (as amended), "Environment" means the surroundings within which humans exist and that are made up of: a) the land, water and atmosphere of the earth; b) micro-organisms, plants and animal life; c) any part or combination of (a) or (b) and the interrelationships among and between them; and d) the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and wellbeing.

Term	Definition
Environmental Assessment	The generic term for all forms of environmental assessment for projects, plans, programmes or policies and includes methodologies or tools such as environmental impact assessments, strategic environmental assessments and risk assessments.
Environmental Authorisation	An authorisation issued by the competent authority in respect of a listed activity, or an activity which takes place within a sensitive environment.
Environmental Assessment Practitioner	The individual responsible for planning, management and coordination of environmental impact assessments, strategic environmental assessments, environmental management programmes or any other appropriate environmental instrument introduced through the EIA Regulations.
Environmental Impact	A change to the environment (biophysical, social and/ or economic), whether adverse or beneficial, wholly or partially, resulting from an organisation's activities, products or services.
Environmental Impact Assessment	The process of identifying, predicting, evaluating and mitigating the biophysical, social, and other relevant effects of development proposals prior to major decisions being taken and commitments made.
Environmental Issue	A concern raised by a stakeholder, interested or affected parties about an existing or perceived environmental impact of an activity.
Environmental Management	The inclusion of environmental concerns in all stages of the development, so that the development is sustainable and does not detrimentally impact the environment.
Environmental Management Programme	A detailed plan of action prepared to ensure that recommendations for enhancing or ensuring positive impacts and limiting or preventing negative environmental impacts are implemented during the life cycle of a project. The EMPr focuses on the construction phase, operation (maintenance) phase and decommissioning phase of the proposed project.
Expansion	Means the modification, extension, alteration or upgrading of a facility, structure or infrastructure at which an activity takes place in such a manner that the capacity of the facility or the footprint of the activity is increased.
Fatal Flaw	Issue or conflict (real or perceived) that could result in developments being rejected or stopped.
General Waste	Waste that does not pose an immediate hazard or threat to health or to the environment, and includes domestic waste, building and demolition waste, business waste, and inert waste.
Hazardous Waste	Waste that contains organic or inorganic elements or compounds that may, owing to the inherent physical, chemical or toxicological characteristics of that waste, have a detrimental impact on health and the environment.
Indirect impacts	Indirect or induced changes that may occur as a result of the activity. These types of impacts include all of the potential impacts that do not manifest immediately when the activity is undertaken or which occur at a different place as a result of the activity.
Integrated Environmental Management	A philosophy that prescribes a code of practice for ensuring that environmental considerations are fully integrated into all stages of the development and decision-making process. The IEM philosophy (and principles) is interpreted as applying to the planning, assessment, implementation and management of any proposal (project, plan, programme or policy) or activity – at local, national and international level – that has a potentially significant effect on the environment.

Term	Definition
	Implementation of this philosophy relies on the selection and application of appropriate tools for a particular proposal or activity. These may include environmental assessment tools (such as strategic environmental assessment and risk assessment), environmental management tools (such as monitoring, auditing and reporting) and decision-making tools (such as multi-criteria decision support systems or advisory councils).
Interested and Affected Party	For the purposes of Chapter 5 of the NEMA and in relation to the assessment of the environmental impact of a listed activity or related activity, means an interested and affected party contemplated in Section 24(4)(a)(v), and which includes – (a) any person, group of persons or organisation interested in or affected by such operation or activity; and (b) any organ of state that may have jurisdiction over any aspect of the operation or activity.
Mitigate	The implementation of practical measures designed to avoid, reduce or remedy adverse impacts or enhance beneficial impacts of an action.
No-Go Option	In this instance, the proposed activity would not take place, and the resulting environmental effects from taking no action are compared with the effects of permitting the proposed activity to go forward.
Rehabilitation	A measure aimed at reinstating an ecosystem to its original function and state (or as close as possible to its original function and state) following activities that have disrupted those functions.
Sensitive environment	Any environment identified as being sensitive to the impacts of the development.
Significance	Significance can be differentiated into impact magnitude and impact significance. Impact magnitude is the measurable change (i.e. magnitude, intensity, duration and likelihood). Impact significance is the value placed on the change by different affected parties (i.e. level of significance and acceptability). It is an anthropocentric concept, which makes use of value judgements and science-based criteria (i.e. biophysical, social and economic).
Stakeholder engagement	The process of engagement between stakeholders (the proponent, authorities and I&APs) during the planning, assessment, implementation and/or management of proposals or activities.
Sustainable Development	Development which meets the needs of current generations without hindering future generations from meeting their own needs.
Watercourse	Means: a) a river or spring; b) a natural channel or depression in which water flows regularly or intermittently; c) a wetland, lake or dam into which, or from which, water flows; and d) any collection of water which the Minister may, by notice in the Gazette, declare to be a watercourse as defined in the National Water Act, 1998 (Act No. 36 of 1998) and a reference to a watercourse includes, where relevant, its bed and banks.
Wetland	Means land which is transitional between terrestrial and aquatic systems where the water table is usually at or near the surface, or the land is periodically covered with shallow water, and which land in normal circumstances supports or would support vegetation typically adapted to life in saturated soil.

PROPOSED RECTIFICATION IN TERMS OF SECTION 24G OF NATIONAL ENVIRONMENTAL MANAGEMENT ACT (ACT 107 OF 1998) FOR THE UNLAWFUL ACTIVITIES ON THE REM OF ERF 196, PORTION 1 OF ERF 196, REM OF ERF 197 AND ERF 198, ASHBURTON, KWAZULU-NATAL

1 INTRODUCTION

1.1 Project Title

Proposed Rectification in terms of Section 24G of National Environmental Management Act (NEMA, Act 107 of 1998) for the unlawful activities on the Rem of Erf 196, Portion 1 of Erf 196, Rem of Erf 197 and Erf 198, Ashburton, KwaZulu-Natal

1.2 Listed Activities

In terms of the National Environmental Management Act (NEMA), Act 107 of 1998, and the Environmental Impact Assessment (EIA) Regulations of 2014 (as amended 2017 and 2021), published in Government Notice Regulation (GNR) 324, 325 and 327 of 2014 (as amended 2017 and 2021), certain Listed Activities require either a Basic Assessment (BA) Process (GNR 324 and GNR 327) or a Scoping and EIA Process (GNR 325) to be undertaken for Environmental Authorisation (EA). The proposed activities trigger the following Listed Activity which requires a BA Process to be undertaken (refer to **Table 2** below).

Table 2: Applicable Listed Activities in terms of the NEMA: EIA Regulations, 2014 (as amended 2017 & 2021).

Indicate the number of the relevant Government Notice:	Activity No (s) (relevant notice): e.g. Listing notices 1, 2 or 3	Describe each listed activity as per the wording in the listing notices as well as per the proposed activity:
GNR 327	**Activity 12:** *"The development of—* *(iii) dams or weirs, where the dam or weir, including infrastructure and water surface area, exceeds 100 square metres; or* ***(iv) infrastructure or structures with a physical footprint of 100 square metres or more;*** ***where such development occurs—*** ***(d) within a watercourse;*** *(e) in front of a development setback; or* ***(f) if no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse; —***	**This activity is applicable as the development occurs within 32 m of a watercourse.**

	excluding— *(aa) the development of infrastructure or structures within existing ports or harbours that will not increase the development footprint of the port or harbour;* *(bb) where such development activities are related to the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies;* *(cc) activities listed in activity 14 in Listing Notice 2 of 2014 or activity 14 in Listing Notice 3 of 2014, in which case that activity applies;* *(dd) where such development occurs within an urban area;* *(ee) where such development occurs within existing roads, road reserves or railway line reserves; or* *(ff) the development of temporary infrastructure or structures where such infrastructure or structures will be removed within 6 weeks of the commencement of development and where indigenous vegetation will not be cleared."*	
GNR 327	**Activity 19:** *""The infilling or depositing of any material of more than 10 cubic metres into, or the dredging, excavation, removal or moving of soil, sand shells, shell grit, pebbles or rock of more than 10 cubic metres from a watercourse…."*	**The activity is applicable as a watercourse has been infilled.**
GNR 327	**Activity 27:** *""The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation…"*	**The activity is applicable as more than 1 ha of indigenous vegetation has been cleared on site.**
GNR 324	**Activity 4:** *"The development of a road wider than 4 metres with a reserve less than 13,5 metres.* *d. KwaZulu-Natal.* *xi. Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority.* *xii. Outside urban areas:* *(aa). Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any terrestrial protected area identified in terms of NEMPAA or from the core areas of a biosphere reserve..."*	**This activity is applicable as the internal roads have been developed that are wider than 4 m and the site is located within 5 km of the Mpushini Protected Area.**
GNR 324	**Activity 6:** *"The development of resorts, lodges, hotels, tourism or hospitality facilities that sleeps 15 people or more.* *d. KwaZulu-Natal.*	**This activity is applicable as 96 people will be able to sleep at the Hotel.**

	vii. Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans. *xi. Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority."*	
GNR 324	**Activity 12:** "*The clearance of an area of 300 square metres or more of indigenous vegetation except where such clearance of indigenous vegetation…* *d. KwaZulu-Natal…* *v. Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans…* *Xii. Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the act and as adopted by the competent authority…"*	**This activity is applicable as more than 300 m^2 of indigenous vegetation has been cleared and the site is located within a Critical Biodiversity Area and is within 5 km of the Mpushini Protected Area.**
GNR 324	**Activity 14:** *"The development of – …* *(i) Dams or weirs, where the dam or weir, including infrastructure and water surface area exceeds 10 square metres; or* *(ii) Infrastructure or structure with a physical footprint of 10 square metres or more;* *Where such development occurs –* *(a) Within a watercourse; …* *(b) If no development setback has been adopted, within 32 metres of a watercourse, measured from the edge of a watercourse…* *d. KwaZulu-Natal…* *vii. Critical biodiversity areas or ecological support areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans…"*	**This activity is applicable as a small watercourse was infilled to create a dam and the site is located in a Critical Biodiversity Area.**

1.3 List of Legislation, Polices and / or Guidelines that are relevant to the Application

There are a number of significant sections of environmental and other legislation that need to be recognised and adhered to during this EA Process. **Table 3** below provides a list of legislation, policies and / or guidelines that are relevant to the application.

Table 3: List of Legislation, Policies and / or Guidelines that are relevant to the application.

Title of legislation, policy or guideline:	Administering authority:	Date:
uMgungundlovu District Municipality Fifth Generation Draft Integrated Development Plan (IDP)	uMgungundlovu District Municipality	2022/2023 – 2026/2027
Environmental Management Framework (EMF) for the uMgungundlovu District Municipality	Umgungundlovu District Municipality	2017
Umgungundlovu District Municipality Spatial Development Framework (SDF)	Umgungundlovu District Municipality	2014
Msunduzi Municipality Draft Spatial Development Framework (SDF)	Msunduzi Municipality	2021
Msunduzi Local Municipality EMF	Msunduzi Municipality	2021
Msunduzi Municipality Integrated Development Plan	Msunduzi Municipality	2021/2022

Title of legislation, policy or guideline:	Administering authority:	Date:
(IDP)		
The National Environmental Management Act (NEMA, Act No. 107 of 1998)	Department of Environmental Affairs (DEA)	1998
The Msunduzi Integrated Environmental Management Policy (IEMP)	Msunduzi Municipality	2017
The draft Msunduzi Ecosystem Services Plan (ESP)	Msunduzi Municipality	2010
The Msunduzi Conservation Plan (C-Plan)	Msunduzi Municipality	2010
The Msunduzi Strategic Environmental Assessment (SEA)	Msunduzi Municipality	2010
The Msunduzi Climate Change Policy	Msunduzi Municipality	2014
The Msunduzi Climate Change Adaptation & Mitigation Strategy	Msunduzi Municipality	2017
The Constitution of South Africa (Act No. 108 of 1996)	Department of Justice and Constitutional Development (DOJCD)	1996
Environmental Impact Assessment (EIA) Regulations promulgated under the NEMA	DEA	2017
Integrated Environmental Management (IEM) Information Series	DEA	2010
The National Water Act (NWA, Act No. 36 of 1998)	Department of Water and Sanitation (DWS)	1998
Water Services Act (Act No. 108 of 1997)	DWS	1997
National Heritage Resources Act (NHRA, Act 25 of 1999)	South African Heritage Resources Authority (SAHRA)	1999
KwaZulu-Natal Heritage Resources Act (Act No. 10 of 1997)	SAHRA	1997
National Road Traffic Act (Act No. 93 of 1996)	Department of Transport (DoT)	1996
The National Environmental Management: Waste Act (NEM: WA, Act No. 59 of 2008)	DEA	2008
The National Environmental Management: Waste Amendment Act (NEM: WAA, Act No. 26 of 2014)	DEA	2014
The National Veld and Forest Fire Act (Act 101 of 1998)	DEA	1998
The Hazardous Substances Act (Act No. 15 of 1973)	South African Government	1973
The Occupational Health and Safety Act (OHSA, Act No. 85 of 1993)	South African Government	1993
The Mineral and Petroleum Resources Development Act (Act No. 28 of 2002)	South African Government	2002
The South African National Standard (SANS, 10103:2008): The measurement and rating of environmental noise with respect to annoyance and speech communication	SANS	2008
The National Environmental Management: Air Quality Act (NEM:AQ, Act No. 39 of 2004)	DEA	2004
The National Environmental Management: Biodiversity Act (NEM:BA, Act No. 10 of 2004)	DEA	2004
The Biodiversity Policy	South African National Biodiversity Institute	2021

Title of legislation, policy or guideline:	Administering authority:	Date:
	(SANBI)	
KwaZulu-Natal Nature Conservation Management Act (Act No. 9 of 1997)	Centre for Environmental Rights (CER)	1997
EIA Guideline and Information Document Series: Guideline on Alternatives	Provincial Government of the Western Cape: Department of Environmental Affairs and Development Planning (DEA&DP)	2010
EIA Guideline and Information Document Series: Guideline on Public Participation	Provincial Government of the Western Cape: DEA&DP	2011
EIA Guideline and Information Document Series: Guideline on Need and Desirability	Provincial Government of the Western Cape: DEA&DP	2010
EIA Guideline and Information Document Series: Information Document on Generic Terms of Reference for EAPs and Project Schedules	Provincial Government of the Western Cape: DEA&DP	2010
Integrated Environmental Guideline: Guideline on Need and Desirability	DEA	2017
Public Participation Guideline in terms of the NEMA (1998) and the EIA Regulations (2017)	DEA	2017
South African National Standard (SANS) 10 108 The classification of hazardous locations and the selection of apparatus for use in such locations.	SABS	2005
South African National Standard (SANS) 10400 – Code of Practice for the Application of the National Building Regulations.	SABS	1990
South African National Standard (SANS) 10 131 Section 5.	SABS	2004

1.4 SG 21 Digit Code(s) of the Properties

N	0	F	T	0	0	0	5	0	0	0	0	0	1	9	6	0	0	0	0	0
N	0	F	T	0	0	0	5	0	0	0	0	0	1	9	6	0	0	0	0	1
N	0	F	T	0	0	0	5	0	0	0	0	0	1	9	7	0	0	0	0	1
N	0	F	T	0	0	0	5	0	0	0	0	0	1	9	7	0	0	0	0	0
N	0	F	T	0	0	0	5	0	0	0	0	0	1	9	8	0	0	0	0	0

1.5 Physical Address & Farm Name

Address	Rem of Erf 196, Portion 1 of Erf 196, Rem of Erf 197 and Erf 198, Ashburton.
Farm Name	Rem of Erf 196, Portion 1 of Erf 196, Rem of Erf 197 and Erf 198, Ashburton.
Town	Ashburton, KwaZulu-Natal
Postal Code	3201

1.6 Co-ordinates of the Property

Corner/Position	Latitude (S)	Longitude (E)
Corner 1	29º 40’ 21.63” S	30º 27’ 18.97” E
Corner 2	29º 40’ 23.88” S	30º 27’ 21.05” E
Corner 3	29º 40’ 26.78” S	30º 27’ 26.32” E
Corner 4	29º 40’ 36.23” S	30º 27’ 19.11” E
Corner 5	29º 40’ 32.11” S	30º 27’ 13.87” E
Corner 6	29º 40’ 22.99” S	30º 27’ 17.61” E

1.7 Specialist Studies

As part of the Section 24G Application Process, the following Specialist Studies have been undertaken:

- Biodiversity Assessment.
- Heritage Impact Assessment and Desktop Palaeontological Impact Assessment.
- Bulk and Internal Services Report.
- Desktop Geotechnical Assessment.
- Wetland Assessment.
- Traffic Impact Assessment.
- Stormwater Management Plan.

Input from the Specialist Studies has been included in this Section 24G Report where applicable.

2 LEGISLATIVE FRAMEWORK

2.1 The Constitution of the Republic of South Africa (Act No. 108 of 1996)

The Constitution of the Republic of South Africa (Act No. 108 of 1996) is the legal source for all law, including environmental law, in South Africa. The Bill of Rights is fundamental to the Constitution of South Africa and the underlying principle behind Section 24 of the Act is that 'everyone has the right to an environment that is not harmful to their health or well-being'. Furthermore, the environment must be protected for present and future generations by preventing pollution, promoting conservation, and practicing ecologically sustainable development.

2.2 National Environmental Management Act (Act No. 107 of 1998)

The National Environmental Management Act (NEMA) came into effect in January 1999. The NEMA is South Africa's overarching environmental legislation and its primary objective is to provide for cooperative governance by establishing principles for decision making on matters affecting the environment, institutions that will promote cooperative governance and procedures for coordinating environmental functions exercised by organs of state, and to provide for matters connected therewith.

The NEMA provides the equitable distribution of natural resources, sustainable development, environmental protection, and the duty of care / polluter pays principles of environmental management frameworks (see below).

In terms of the Environmental Impact Assessment (EIA) Regulations (2014, as amended – 2017) promulgated under the NEMA, certain Listed Activities are specified for which either a Basic Assessment Process (GNR 324 and GNR 327) or a Scoping and EIA Process (GNR 325) is required.

The project would have been subject to a **Basic Assessment Process** in terms of the EIA Regulations. However, since the unlawful activities have already been undertaken, the Applicant wishes to obtain retrospective Environmental Authorisation in terms of Section 24G of the NEMA. As such, a **Section 24G Application Process** has been undertaken.

The aim of the Section 24G of the EIA Regulations is to assess the environmental impacts that have occurred and have the potential to occur as a result of the unlawful activities.

2.3 Sustainable Development

The principle of sustainable development has been established in the Constitution of the Republic of South Africa and is given effect by the NEMA. Section 1 (29) of the NEMA states that sustainable development refers to the "*integration of social, economic and environmental factors into the planning, implementation and decision-making process so as to ensure that development serves present and future generations."*

Thus, sustainable development requires that:

- The disturbance of ecosystems and loss of biological diversity are avoided, or, where they cannot be altogether avoided, are minimised and remedied;
- That pollution and degradation of the environment are avoided, or, where they cannot be altogether avoided, are minimised and remedied;
- The disturbance of landscapes and sites that constitute the nation's cultural heritage is avoided, or where it cannot be altogether avoided, is minimised and remedied;
- Waste is avoided, or where it cannot be altogether avoided, minimised and reused or recycled where possible and otherwise disposed of in a responsible manner;
- A risk-averse and cautious approach is applied, which considers the limits of current knowledge about the consequences of decisions and actions; and
- Negative impacts on the environment and on people's environmental rights be anticipated; and, prevented and where they cannot altogether be prevented, are minimised, and remedied.

2.4 "Polluter Pays" Principle

The 'Polluter Pays' principle provides that 'the cost of remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling or minimising further pollution, environmental damage or adverse health effects must be paid for by those responsible for harming the environment'.

Section 28 of the NEMA makes provision that anyone who causes pollution or degradation of the environment is responsible for preventing impacts occurring, continuing, or recurring, and for the costs of repair of the environment. In terms of the provisions under Section 28:

(1) Every person who causes, has caused or may cause significant pollution or degradation of the environment must take reasonable measures to prevent such pollution or degradation from occurring, continuing or recurring, or, in so far as such harm to the environment is authorised by law or cannot reasonably be avoided or stopped, to minimise and rectify such pollution or degradation of the environment.

2.5 National Water Act (Act No. 36 of 1998)

The project falls within the ambit of the NWA because of its potential to cause pollution of water resources defined under the NWA. The NWA recognises that water is a natural resource that belongs to all people. It regulates the manner in which persons obtain the right to use water and provides for just and equitable utilisation of water resources.

Sustainability and equity are identified as central guiding principles in the protection, use and management of water resources. These guiding principles recognise:

- The basic human needs of present and future generations;
- The need to protect water resources;
- The need to share some water resources with other countries; and
- The need to promote social and economic development through the use of water.

Section 19 of the NWA states that the person responsible for land upon which any activity is or was performed and which causes, has caused or is likely to cause, pollution of a water resource, must take all reasonable measures to prevent any such pollution from occurring, continuing, or recurring.

Part 5 of the NWA deals with the pollution of water resources, following an emergency incident. This could include an accident involving the spill of a harmful substance that finds, or may find, its way into a water resource. In terms of Section 30 of the NEMA and Section 20 of the NWA, the responsibility for remedying the situation rests with the person responsible for the incident or the substance involved. If there is a failure to act, the relevant Catchment Management Agency may take the necessary steps and recover the costs from the responsible person(s).

2.6 National Veld and Forest Fire Act (Act No. 101 of 1998)

The purpose of the National Veld and Forest Fire Act (Act No. 101 of 1998) is to prevent and combat veld, forest and mountain fires throughout South Africa. The Act provides Regulations for the establishment, registration, duties and functioning of fire protection associations. In addition, it provides for the prevention of veld fires through a fire emergency rating system. Chapter 4 of the Act places a duty on owners to prepare and maintain firebreaks and provides regulations on the role of adjoining landowners. Chapter 5 places a duty on all owners to acquire equipment and have firefighting personnel available to combat fire. Chapter 6 provides Regulations on offences and penalties.

Chapter 4 of the Act deals with veldfire prevention through firebreaks and places a duty on all landowners to prepare and maintain firebreaks.

- Section 12 (1) states that *'Every owner on whose land a veldfire may start or burn or from whose land it may spread must prepare and maintain a firebreak on his or her side of the boundary between his or her land and any adjoining land.'*
- Section 13 states that *'An owner who is obliged to prepare and maintain a firebreak must ensure that, with due regard to the weather, climate, terrain and vegetation of the area –*
  (a) it is wide enough and long enough to have a reasonable chance of preventing a veldfire from spreading to or from neighbouring land;
  (b) it does not cause soil erosion; and
  (c) it is reasonably free of inflammable material capable of carrying a veldfire across it."

2.7 National Environmental Management: Biodiversity Act (Act No. 10 of 2004)

The National Environmental Management: Biodiversity Act (NEM:BA, Act No. 10 of 2004) makes provision for the management and conservation of South Africa's biodiversity within the framework of the NEMA through:

- The protection of species and ecosystems;
- Sustainable use of indigenous living organisms; and
- The equitable distribution of benefits that result from biological resources.

Sections 75 and 76 of the NEM:BA deals with alien invasive species monitoring, control and eradication plans and how they should be implemented:

- Section 75 (1) states that *'control and eradication of a listed alien invasive species must be carried out by means of methods that are appropriate for the species concerned and the environment in which it occurs';*
- Section 75 (2) states that *'any action taken to control and eradicate a listed alien invasive species must be executed with caution and in a manner that may cause the least possible harm to biodiversity and damage to the environment'; and*
- Section 75 (3) states that *'The methods employed to control and eradicate a listed alien invasive species must also be directed at the offspring, propagating material and regrowth of such alien invasive species in order to prevent such species from producing offspring, forming seed, regeneration or re-establishing itself in any manner'.*

Category 1a Listed alien invasive vegetation species (such as Bluebell Creeper, Water Primrose, Skeleton Weed) are those species that must be removed and eradicated and require compulsory control. No person is allowed to sell, advertise, exhibit, transmit, send, deliver for sale, exchange or dispose of any specimen. It is also illegal to accept a Category 1a plant as a gift or disperse of the weed from one place to another. All Category 1a species are required to be removed by law and no permits are issued.

Category 1b Listed alien invasive vegetation species (such as Bugweed, Lantana, Madagascar Periwinkle and Triffid Weed) are those species that must be controlled. These plants need to be eradicated and removed as they are declared weeds and are not tolerated. No person is allowed to grow, sell, breed or move any specimen. These plants are known to have a high invasive potential, and an invasion of these species can require an Alien Invasive Vegetation Management Programme and need to be eradicated. No permits are issued for Category 1b species.

Category 2 Listed alien invasive vegetation species (such as Black Wattle, Australian Blackwood, St John's Wort, Jacaranda Tree) are those species that require a permit to carry out a restricted activity within an area specified in the Notice or an area specified in the permit. In order to carry out a restricted activity, a permit is required. A person on whose land a Category 2 Listed alien invasive vegetation species occurs must ensure that the species does not spread outside of the land where the permit is specified. These plants may only be grown in areas demarcated on sites where such plants may be established, retained and strictly controlled. In the case for the exemption of an existing plantation whereby a plantation existed before the NEM:BA notice came into effect; it is exempted from requiring

a permit for any restricted activity. A permit is needed to authorise multiple restricted activities. Category 2 vegetation may only be acquired or sold by any person who has an area of land which has been demarcated for the growing of that species.

Category 3 Listed alien invasive vegetation species (such as the Chameleon Plant, Stinging Nettle, Lesser Balloon Vine) are those species that are prohibited from growing, breeding, selling, buying and donating. Further plantings are prohibited. An individual plant permit is required to undertake any of the following restricted activities (import, possess, grow, breed, move, sell, buy or accept as a gift) involving a Category 3 species. Without a permit, trade in category 3 plants is not allowed, however, the trade in the wood of Category 3 plants is allowed. If these plants exist already, they may be retained but no new planting or trade may occur. A permit is required to take on any of the restricted activities. Any action taken to control weeds or invader plants must be executed with caution and in a manner that will have minimal environmental impact.

3 ASSISTING GUIDELINE DOCUMENTS

3.1 The Department of Economic Development, Environmental Affairs and Tourism Assisting Guideline Document Series

3.1.1 Western Cape Department of Economic Development, Tourism and Environmental Affairs EIA Guideline and Information Document Series (March 2013)

In order to assist potential Applicants, EAPs and Interested and Affected Parties (I&APs) to understand what is required of them in terms of the EIA Regulations, what their rights are and / or what their role may be, the Department of Environmental Affairs (DEA) has made provision for the Western Cape Department of Environmental Affairs and Development Planning (DEA&DP) to issue an EIA Guideline & Information Document Series. Following permission from the National Minister, the DEA formally published the following EIA guidelines in terms of Section 24J:

- **Guidelines on Transitional arrangements (March 2013);**
- **Guideline on Appeals (March 2013);**
- **Guideline on Alternatives (March 2013);**
- **Guideline on Public Participation (March 2013);**
- **Guideline on Exemption Applications (March 2013);**
- **Guideline on Need and Desirability (March 2013); and**
- **Guideline on Generic Terms of Reference for EAPs and Project Schedules (March 2013).**

Unpublished guidelines in terms of Section 24J of the NEMA are as follows:

- **Information Document on the Interpretation of the Listed Activities (August 2010); and**
- **Information Document on Biodiversity Offsets (October 2011).**

The following three guideline documents were consulted in the compilation of the Section 24G Report:

Guideline on Alternatives (March 2013)

The NEMA defines the 'best practicable environmental option' as '*the option that provides the most benefit or causes the least damage to the environment as a whole, at a cost acceptable to society, in the long term as well as in the short term*'. Alternatives are defined in the EIA Regulations as '*different means of meeting the general purpose and requirements of the activity*'. The '*feasibility*' and '*reasonability*' of and the need for alternatives must be determined by considering, inter alia, (a) the general purpose and requirements of the activity, (b) need and desirability, (c) opportunity costs, (d) the need to avoid negative impact altogether, (e) the need to minimise unavoidable negative impacts, (f) the need to maximise benefits, and (g) the need for equitable distributional consequences.

Guideline on Public Participation (March 2013)

The general objectives of integrated environmental management laid down in the NEMA include to: *'Ensure adequate and appropriate opportunity for public participation in decisions that may affect the environment'. The NEMA principles include the principle that 'the participation of all interested and affected parties in environmental governance must be promoted, and all people must have the opportunity to develop the understanding, skills and capacity necessary to achieving equitable and effective participation, and participation by vulnerable and disadvantaged persons must be ensured'.*

The guideline provides details on when to facilitate public participation, the methods to apply for notifications to I&APs, the formats required to be used for notifications, details on requirements for commenting and consultation periods, the process of identifying and responding to stakeholders, and guidelines for compilation of public participation reports for inclusion to the environmental report.

Guideline on Need and Desirability (March 2013)

The guidelines specify that the needs and desirability of a project must be measured within a local strategic context against the Municipality's Integrated Development Plan (IDP), Spatial Development Framework (SDF) and Environmental Management Framework (EMF). These local strategies and

policies will contain the local community's needs, interests and objectives in respect of desired land uses and location and nature of the project within the Municipality. Of equal importance is the question of whether the project meets the societal needs and interests of the broader public. Fourteen questions provided in the guidelines are intended to provoke adequate consideration of 'need and desirability' in order to ensure that the best practicable environmental option is pursued and that the project more equitably serves broader societal needs.

3.2 uMgungundlovu District Municipality: Fifth Generation Draft Integrated Development Plan (2022 / 2023 – 2026 / 2027)

The uMgungundlovu District Municipality is approximately 9 514 km^2. It is one of ten district municipalities in KwaZulu-Natal. The eThekwini, iLembe and Sisonke District Municipalities border onto the uMgungundlovu District Municipality. It comprises seven local municipalities which are the Impendle, Mkhambathini, Mpofana, Msunduzi, Richmond, uMngeni and uMshwathi Local Municipalities. The uMgungundlovu District Municipality has a population of approximately 1 017 763 people and consists of both rural and urban development.

The uMgungundlovu District Municipality has an unemployment rate of 30.4 %. There are many draw factors in terms of tourism in the area such as the Midlands Meander, the uKhahlamba-Drakensberg and the Umkomaas River Valley which are all well situated near the N3 highway. Pietermaritzburg is home to various sporting events such as The Comrades Marathon, Duzi Canoe Marathon and the Amashova Durban Classic cycle race which is from Pietermaritzburg to Durban. The Thorntree Hotel and associated facilities are located within a few minutes from the N3 corridor which serves as a link between KwaZulu-Natal and Gauteng. The N3 Corridor has been identified as a priority area. The Thorntree Hotel is suitably located near the N3 and the surrounding tourist areas.

3.3 Msunduzi Local Municipality: Integrated Development Plan (2022 / 2023)

The Msunduzi Local Municipality falls within the uMgungundlovu District Municipality. The Msunduzi Local Municipality is the second highest contributor generating 9.03 % of the GDP. It is located at the southern-central portion of the uMgungundlovu District Municipality. Msunduzi Local Municipality is the smallest local municipality in the district and covers an area of approximately 634 km^2. The municipality has the largest population of the district. The municipality is predominantly urban in nature and relatively more developed compared to the rest of the municipalities in the district.

The Msunduzi Local Municipality tourism sector plays an important role in contributing to job creation and aids economic growth. The various events that are held in Pietermaritzburg strengthen small businesses and local tourism establishments such as bed and breakfasts and hotels. Therefore, the Thorntree Hotel and associated facilities will contribute to the local economy and provide employment opportunities to the surrounding area.

4 THE PROJECT

4.1 Property Location and Land Description

The Thorntree development is approximately 2.91 ha in extent and total property boundary is approximately 6.36 ha in extent and is located on the Remainder of Erf 196, Portion 1 of Erf 196, the Remainder of Erf 197 and Erf 198, Ashburton, KwaZulu-Natal. The property is situated on Thorntree Road and is located at GPS coordinates 29° 40’ 25.64” S 30° 27’ 19.53” E.

The following infrastructure has been established on site:

- Hotel accommodation to sleep 96 people.
- Restaurant.
- Salon / health studio.
- Laundry.
- Gym and spa.
- Conference room.
- Thatch lapa.
- Access road and parking areas.

Refer to **Figure 1 and 2** for maps of the site, and **Figures 3** for photographs of the development. High resolution versions of these maps are provided in **Appendix A**.

Figure 1: Topographical Map of the Thorntree Development, Ashburton, KwaZulu-Natal.

Figure 2: Overview Map of the Thorntree Development, Ashburton, KwaZulu-Natal.

4.1.1 Site Photographs

Plate 1: View of one of the thatched accommodation units.

Plate 2: View of the buildings being constructed.

Plate 3: View of the infilled watercourse.

Plate 4: View of the vegetation on the property.

Plate 5: View of the infilled watercourse and location of an accommodation unit.

Plate 6: Location of the proposed parking area.

Figure 3: Photographs of the Thorntree Development.

4.2 Project Description

The Applicant, Movito (Pty) Ltd, wishes to apply for the continuation of activities in terms of the Environmental Impact Assessment (EIA) Regulations and Section 24G of the National Environmental Management Act (NEMA, Act No. 107 of 1998).

On 04 November 2022, a Notice of Intention was issued to the Applicant by the Department of Economic Development, Tourism and Environmental Affairs (DEDTEA) in terms of the NEMA (**Appendix G1**). Green Door Environmental was appointed by the Applicant as the Environmental Assessment Practitioner (EAP) to address the abovementioned unlawful activities in terms of the NEMA.

The Thorntree development is located on the Thorntree Road in Ashburton within the Msunduzi Local and uMgungundlovu District Municipality, KwaZulu-Natal. The property is approximately 10 km south-east from Pietermaritzburg and is located in an area zoned 'Equestrian Residential 1' and is surrounded by residential dwellings. The property will be rezoned to 'Tourism 1'. The property is located at GPS coordinates 29° 40' 25.64" S 30° 27' 19.53" E.

The Applicant has commenced with the construction of a Hotel with 46 bedrooms that can sleep a total of 96 people (refer to **Appendix A** for high resolution layout plans). The Hotel will include a restaurant, salon, laundry, gym and spa that will be open to guests.

The following infrastructure has been established on site:

- Hotel accommodation able to sleep 96 people.
- Restaurant.
- Salon / health studio.
- Laundry.
- Gym and spa.
- Conference room.
- Thatch lapa.
- Access road and parking.

The Thorntree development commenced with construction in 2019 and is approximately 2.91 ha in extent. The total property is 6.36 ha in extent. A total of four (4) Hydro Geomorphic Units (HGM) were identified in the retrospective Wetland Assessment (Appendix D5).

- Two (2) channelled valley-bottom wetlands (**HGM Units 1 & 3**) were identified on site that has had impacts imparted by the site activities; however, not adversely impacted and remains largely *in-situ*. These are naturally occurring wetlands that have been features in the landscape prior to 1944; though, they have increased in size due to the cessation of agricultural activities and being in a valley floor, received increased source point stormwater discharges in the developing urban landscape.
- Two (2) depression wetlands (**HGM Units 2 & 4**) were identified on site and were impacted by the site activities. **HGM Units 2** and **4** have been established in-stream of **HGM Unit 1** for the purposes perceived for water storage (i.e., in-stream dams) for livestock watering and agricultural irrigation.

Due to construction activities and disturbance on site, an impact has been imparted on the four HGM Wetland Units on the property.

According to the Biodiversity Assessment (**Appendix D1**) the original vegetation on the property was characterised by Eastern Valley Bushveld . The ecological status of the vegetation type was ranked '*Least Threatened'* and is '*Nominally Protecte*d'. The Screening Tool Report indicated the site to have an irreplaceable Critical Biodiversity Area was indicated as occurring on the site. The assessed areas were *Irreversibly Modified* in parts where buildings, roads and gardens have been constructed, and *Highly Modified* in other areas where vegetation clearing has occurred with drains, roads and/or new

accommodation units under construction. 4.7 ha of indigenous vegetation was diverse with key species representative of Eastern Valley Bushveld. It is recommended by the Biodiversity Specialist that the removal of the structures and all building materials from a 0.26 ha cleared area within the CBA Area be completed, and this area be allowed to be rehabilitated with indigenous vegetation.

The animal species reflected the differences in past land use, of which part was a good example of Eastern Valley Bushveld and part was croplands and areas developed for housing. Animal species sensitivity was ranked High for a large part of the site that included the CBA Irreplaceable area. In considering ecological corridors for fauna, the loss of habitat on the construction site was a *Low* impact because most of the site was previously developed or cultivated prior to the recent development.

No archaeological sites, fossils, graves or historical buildings were observed on site (**Appendix D2**). Large portions of the site have already been excavated during construction activities as a result, there were many ditches where bedrock had been unearthed and the upper soil profile had been exposed. These disturbed areas were searched for any evidence of heritage related material, but nothing was observed. Only two stone tools were recorded which were out of context and lying on the surface, one of which was a flake and the other a blade. Palaeontological material which has previously been discovered in Dwyka bedrock predominantly comprises of plants fossils, so this rock type has a low probability of containing significant fossil material.

From a traffic perspective, this development will generate less than 1 000 trips in the peak hour and was assessed for a 5-year design horizon (**Appendix D6**). The area in the vicinity of the development is considered a low growth area from a traffic perspective. As such, a 2 % per annum growth rate was considered for the development. There are no other known approved developments in the area that are likely to result in a substantial increase in the traffic demand within the primary study area. No improvements to the existing road network will be required. No road safety concerns were observed.

In terms of the geological characteristics on site, the site is underlain by a thin mantle of colluvial and residual soils, which overlie generally shallow tillite bedrock beneath the site. The site is considered stable for the proposed development. The results of the percolation tests indicate that the soils beneath the site are not suitable for the use of conventional septic tank and soakaway systems. This is because of the generally shallow bedrock beneath the site area. Therefore, due to no municipal water-borne sewage system available in the area, alternative solutions are proposed such as a conservancy tank, patented package plant or Septic-soakaway system with specially designed evapo-transpirative bed.

A Bulk and Internal Services Report was compiled and concluded the following (**Appendix D3**):

Roads

Thorntree road provides access to the property via an asphalted road which falls under the jurisdiction of the Msunduzi municipality. There is currently a “Type 7A Access Road” which gives access to the proposed development with an internal gravel road to the site.

Water

There is an existing 110 mm municipal water line which supplies water to the existing properties along the road.

Sanitation

There is no water borne sewer network in this area, hence all existing properties are currently serviced by individual septic tanks with soak-aways.

Internal Roads

The proposed internal roads will be surfaced with a combination of continuously graded asphalt and paved with interlocking pavers connecting to Thorntree road.

It is understood that all internal roads will be constructed to suit the anticipated traffic flow, with parking to be provided based on the architectural layout plan according to the town planning regulations. It is expected that the roads and parking area will be a minimum of 170 mm lower than finished floor slab levels of the proposed structures.

The geometric design will ensure the access roads and parking will direct surface run-off away from the buildings, collected via kerb and channel along the outer perimeter of the parking and connected to a storm water network which will eventually disposes off storm water into the existing stream crossing through the current site. The storm water disposal will be controlled to prevent any scouring and erosion of the existing riverbanks, this will be possible with the construction of gabion baskets and reno mattresses along the riverbanks.

The following criteria will be used in the design of the roads applicable to the development:
Internal Roads: Minimum 5 m wide
Design Speed: Road 20 km/hr
Cross Fall: 2 %
Min K-Value: 4
Min Vertical Length : 20 m
Pavement Design: 60 mm interlocking paver / 30 mm continuously graded asphalt.
200 mm G2 base
200 mm G5 natural gravel sub-base
150 mm Rip and Recompact in-situ material,
Stabilised with 2% lime or cement

It is expected that the roads and parking area will be a minimum of 170 mm lower than finished floor slab levels of the proposed structures.

Bulk Sewer

There is no bulk municipal sewer infrastructure available to service the site, hence the development will be required to provide their own sanitation system, complying with national building regulations and best practices. The development is expected to produce a total effluent volume of 18.84 m^3/day, which is based on 90 % of the water consumption.

As per the geotechnical engineering report prepared by Gondwana Geo Solutions, the percolation tests results have confirmed that shallow bedrock exists beneath the site area and are not suitable for the use of conventional septic tanks with soak aways.

Therefore, conservancy tanks shall be the preferred method of disposing of the waste. In addition, all kitchens or restaurants must have oil separators installed. Discussions with the developer have confirmed that they also prefer conservancy tanks.

All effluent must be periodically removed by a specialist maintenance company and regular inspections of the conservancy tanks and oil separator must be carried out so that these are emptied before they overflow or backup (refer to **Appendix G3** for the Permission to Discharge at Darvill Letter).

The effluent must be transported and disposed of at the Darvill Wastewater Treatment Works in Pietermaritzburg. It is however important that conservancy tanks are located downstream of the proposed structures and they must not be less than 32 m away from a natural water source.

Internal Sewer Reticulation

The internal sewer reticulation serving the development will comprise a gravity fed sewer system comprising of a 110 mm sewer reticulation, concrete manholes and rodding eyes. Kitchen outlets from the restaurant must be fitted with fat and grease traps in terms of the building regulations. This traps separate the oil from the kitchen grey water, before entering the sewer system.

It is recommended that the oil separator facility be contracted to specialist maintenance companies for regular inspections and clean outs. The standards for the internal sewer reticulation to be installed for the development can be summarised as follows:
Pipe Material: uPVC
Pipe class: Class 34
Pipe diameters: 110 mm
Minimum Grade: 1:100
Maximum Grade: 1:14
Manholes: 1 m precast concrete, max 70 m spacing
Bedding: Flexible (SABS1200LB)
Minimum Cover: 600 mm

All internal services will be operated and maintained by a suitably qualified maintenance team.

Alternative Sewage Solution:
An alternative would be to install a sewage package treatment plant; however, this would not be a viable option due to low and fluctuating sewage flow patterns, which makes it very difficult to balance the system and achieve effluent quality. The high operational and maintenance costs associated with such a small plant is also not feasible. Small plants with variable flow rate are often problematic, which often leads to fluctuating effluent quality and is thus not desirable for a development of this size, nature and location.

Bulk Water Supply
The existing properties are served from the existing 150 mm diameter bulk municipal water line which traverses the R103. In addition, all four sites (1, 1A, 3 & 5 Thorntree Road) has been serviced with 15 mm diameter municipal connections, equating to a 60 mm diameter municipal line. The maximum daily water demand for the development is approximately 10 kl/day; this volume is readily available from the Msunduzi municipality. Refer to **Table 4** for the daily water demand for the site.

Table 4: Daily water demand (KDA Consulting Engineers).

POTABLE WATER: THORNTREE ROAD DEVELOPMENT

Description	Person Count	Litres p/p/day as per the Red Book Guidelines	Total Water Demand	Peak Factor	Peak Daily Flow (Litres)	Peak Flow Rate (Litres per second : l/s)	Min. Pipe diam (m)	Min. Pipe diam (mm)
Type of Water Supply								
Daily Staff	36	40	1440	4	5760	0.066666667	0.011014645	11.01464545
Visitors, Guests, sleeping	130	150	19500	4	78000	0.902777778	0.040532798	40.53279776
Min Bulk Line Diameter Requierd							0.051547443	51.5474432

Internal Supply:
The internal water reticulation will be limited to a supply to the accommodation, conference facility & Restaurant. All internal bulk pipes shall be a combination of 32 mm, 22 mm & 16 mm uPVC / HDPE Class 12. Plumbing off the water pipes into the buildings (wet services) shall be provided by the architect. Each of the various components within the building complex should be metered separately to reconcile water consumption.

The firefighting requirements of the sites and storage area will be regarded as moderate risk according to the "*Guidelines for Human Settlement Planning and Designs*" due to the commercial section of the service station. All firefighting requirements will be provided by the architect, these will be in line with the Msunduzi municipality's firefighting requirements.

Storm Water:
The standards for the storm water infrastructure to be installed with the proposed development can be summarised as follows:
Flood recurrence interval: 5 years and critical points 10 years
Pipe material: uPVC
Pipe Class: Class "9"
Pipe Diameters: 110 mm to 200 mm
Bedding: Class B
Drains: Grassed & Concrete
Outlet: Headwalls with energy dissipaters, gabions, and Reno mattresses

The storm water infrastructure will be constructed in accordance with the "*Guidelines for Human Settlement Planning and Designs*".

Storm Water Management:
At present all storm water generated on site percolates into the residual soils and the remainder sheet flows towards the existing stream located at the southern end of the site. The collection of surface runoff from roofs, roads and parking areas will be collected via appropriately sized pipelines, manholes, catch pits, concrete lined v-drains and directed to the existing stream. The pipeline that will flow into the stream must receive energy dissipation and scour protection to prevent scouring of the existing riverbanks. Reno-mattresses and gabion baskets are recommended.

Internal Storm Water System:
- Kerb inlets and Gratings (1:50 years)
- Storm water pipes (1:50 years)
- Primary accumulators (1:50 years)
- Secondary accumulators (1:50 years)

Refuse:
An enclosed collection point must be provided within the entrance of the proposed development to collect and store refuse until it can be collected by the municipality. The storage area must be bunded (designed by the architect) and, animal- and windproof. The refuse collection area must be provided with a drain to wash it out, which is linked to the sewer system. It is also advised that recycling be implemented where possible.

Electricity
There is currently electricity provided to the sites, however, confirmation from the municipality regarding capacity has been addressed by the electrical engineer (**Appendix D8**). An application for a bulk electrical connection should be made if necessary.

According to the Electrical Services Report (**Appendix D8**), the site currently has a 25 kVA electrical supply which is insufficient for the current usage. A formal application has been made to Eskom for a new 100 kVA dedicated supply to the site. The site was surveyed by Eskom to confirm the load required. The new supply will be located in the vicinity of the boundary gate. From this point the developer will have to reticulate to a central kiosk (existing) feeding various buildings.

4.3 Motivation

The establishment of the Thorntree Hotel will provide socio-economic benefits through job creation, service provision and skills development. It will also attract investment to the area. This is in line with the uMgungundlovu District Municipality's IDP and SDF which aims to create an enabling environment and sustainable development for the district.

The Applicant, Movito (Pty) Ltd, identified the need for Hotel accommodation with associated facilities to be established in one convenient location. Having a Hotel with amenities, such as a restaurant, salon, health studio, laundry, gym, spa and conference centre is a major draw factor for Hotel guests, as well as members of the public. This allows the Applicant to provide, and help meet the demand for team building events, meetings, getaways, retreats, and conferences, as well as having convenient accommodation for private individuals. Having all these amenities on the same property, allows for convenience and safety.

The Hotel will have a positive impact on the local economy by contributing to economic growth and development and has a greater socio-economic benefit compared to if the Hotel did not exist. The operational phase of the Hotel and associated facilities is expected to be long term. Approximately 40 people were employed during the construction phase. During the operational phase, it is anticipated that 40 permanent jobs will be created (35 staff and 5 security guards). In KwaZulu-Natal, one job supports seven dependents. The Thorntree Hotel has the potential to result in 280 dependents being supported during the operational phase. A total of 560 dependents were/will be supported during both the construction and operational phase.

The Thorntree Hotel is optimally located in Ashburton near the N3 highway, Pietermaritzburg, and Oribi Airport. This allows for easy access for people travelling to and from Gauteng and the surrounding areas.

5 ALTERNATIVES

The EIA Regulations require an identification and investigation of alternatives. For the purposes of the Section 24G Application Process, the following alternatives were identified. These alternatives and their feasibilities have been evaluated in this Section 24G Report.

The following alternatives have been investigated as part of the Section 24G Application Process:

- Unlawfully constructed Hotel and associated infrastructure to be removed or decommissioned, and disturbed areas be rehabilitated – The assessment of the positive and negative implications associated with the removal or decommissioning of the site (**Table 5**).

- Unlawfully constructed Hotel and associated infrastructure to remain in its current state or be modified (preferred) – The assessment of positive and negative implications associated with the sites or the modification of the sites (**Table 6**).

Alternative activities, locations, infrastructure and land uses have not been investigated as this Section 24G Application Process is for the unlawful activities which have already been undertaken, and completed, and are now in operation. Thus, to investigate the abovementioned alternatives is non-purposeful.

5.1 Unlawfully Constructed Hotel and Associated Infrastructure to be Removed or Decommissioned, and Disturbed Areas be Rehabilitated

Table 5: Positives and Negatives of Decommissioning and Rehabilitating the site.

POSITIVES	NEGATIVES
Ceasing or decommissioning of the unlawfully constructed Hotel and associated infrastructure will allow the land that was cleared to return to its natural state, however this is unlikely to be achievable.	The conservancy tanks will need to be decommissioned. There is a risk of spills and thus soil and / or water contamination, if not managed correctly.
The infilled dam/pond will be restored to its original state.	Negative financial implications and wasted financial resources.
Minimise the potential for further impacts on wetland and biodiversity habitats.	No increased revenue for surrounding businesses though activities linked to the operation of the Hotel.
Reduced demand for services.	Unutilised property and risk of land invasion, and thus security threats to local community
Reduced potential for nuisance noise and lighting.	Potential erosion if not managed correctly.
Reduced impact on local roads and traffic.	Potential for alien vegetation species to encroach and dominate the site if not managed correctly
	In KwaZulu-Natal one job supports seven dependents. Approximately 40 jobs are to be sustained during the operational phase, which has the potential to result in approximately 280 dependents being negatively impacted should the Hotel not receive Environmental Authorisation.

The EAP is of the opinion that the ceasing or decommissioning of the Hotel and associated facilities will result in significant detrimental socio-economic impacts. Input from the Specialist Studies has confirmed that the continuation of the Hotel, provided that the recommendations the specialists have provided and the recommendations contained in this Report and EMPr are adhered to, the Hotel has the potential to

have minimal impacts on the surrounding environment. The ceasing or decommissioning of the unlawfully constructed Hotel will result in further significant ecological impacts, and as such, the positive impacts of retaining the Hotel far outweigh the negative impacts.

5.2 Unlawfully Constructed Hotel and Associated Infrastructure to Remain in its Current State

Table 6: Positives and Negatives of the Hotel and Associated Infrastructure to Remain in its Current State.

POSITIVES	NEGATIVES
The Biodiversity Specialist (**Appendix D1**) has recommended that structures (buildings) and all building materials be removed from the 0.26 ha cleared area. This would allow the regeneration of indigenous trees and shrubs, through not mowing or burning the site and ongoing control of alien invasive plants as specified in the EMPr.	The Applicant will need to remove the structures from the Critical Biodiversity Area, which will have financial implications.
In KwaZulu-Natal one job supports seven dependents. Approximately 40 jobs are to be sustained during the operational phase, which has the potential to result in approximately 280 dependents being positively impacted should the Hotel receive Environmental Authorisation.	
Job creation for surrounding businesses and community.	
Takes the specialist findings and recommendations into consideration.	
The four watercourses will be rehabilitated according to the Rehabilitation Plan which is included in the wetland assessment.	
The Hotel and associated infrastructure will ensure further contribution to the GDP.	
A Storm Water Management Plan will be implemented.	
The operational phase is expected to be long term thereby creating permanent employment opportunities.	
Should the Biodiversity Specialists recommendations be implemented, the Critical Biodiversity Areas (CBA) will be protected and rehabilitated.	
This option supports the recommendations of the specialists.	

The EAP is of the opinion that given the abovementioned positive and negative impacts associated with the unlawful activities on site, the preferred option is for the Hotel to remain with the implementation of the recommendations provided by the specialists. The negative impacts will not be as far reaching and long-term as the benefits associated with the current state of the site. It is recommended that the Applicant remove the structures (Hotel accommodation) that are located in the 0.26 ha cleared area (**Figure 10**) (refer to **Appendix D1** for the Biodiversity Assessment).

6 PUBLIC PARTICIPATION PROCESS

6.1 Public Participation Process

A Public Participation Process, as described in Regulation 39 to 44 of the EIA Regulations was undertaken, and includes:

- A list of Interested & Affected Parties (I&APs) was compiled, and has been continually updated (refer to **Appendix C1**);
- Newspaper adverts were published in English in The Witness on 24 November 2022 and Zulu in the Echo on 25 November 2022 to notify I&APs of the project (refer to **Appendix C2**);
- Site posters in English and Zulu were placed on the access road to the Thorntree Hotel on 06 December 2022 (refer to **Appendix C3**);
- A Background Information Documents (BID) was circulated by email from 25 November 2022 (refer to **Appendix C4**);
- A Public Information Session was held at the Ashburton Community Hall, located behind the Ashburton Public Library on 22 February 2023 between 16h00 – 18h00 (refer to **Appendix C5** for the Public Information Session notification, attendance register, handout, minutes, and a photograph); and
- Copies of all comments received following circulation of the newspaper adverts, site posters and BID are included in **Appendix C6**.

Comments received following the circulation of the newspaper adverts, site posters and BID are included in **Table 7** (refer to **Appendix C6**). Additional information has also been provided where it has become available.

6.2 Application for Section 24G Application Process

The official Application Form, provided by the DEDTEA was completed with all the necessary details, including contact details of, and signed declarations by the Applicant and Environmental Consultant. It also included a description of the project, property location and applicable Listed Activities. This was submitted to the DEDTEA (refer to **Appendix B**).

6.3 Protection of Personal Information Act (POPIA, Act No 14 of 2013)

The Protection of Personal Information Act (POPIA, Act No. 14 of 2013) came into effect on 01 July 2021 and aims to promote the protection of personal information. In terms of the POPIA, personal information refers to '*the name of the person if it appears with other personal information relating to the person or if the disclosure of the name itself would reveal information about the person*'. The EIA Regulations require, inter alia, transparent disclosure of registered Interested and Affected Parties (I&APs) and their comments. I&APs who submit comment, attend a Public Information Session or request registration in writing for the 24G Environmental Process are deemed registered I&APs who must be added to the list of I&APs. By registering, I&APs are deemed to give their consent for relevant information to be processed and disclosed, in fulfilment of the requirements of the EIA Regulations.

For the purposes of this Environmental Process and in terms of the requirements of the POPIA, only the names, affiliations and comments of I&APs have been included in this report. Should additional personal information be required by the DEDTEA, consent to share this personal information will be obtained from the I&AP prior to doing so.

Table 7: Comments Received Following Circulation of the Newspaper Adverts, Site Posters and BID.

I&AP COMMENT	RESPONSE
Edith Elliot, Ward 37 Councillor	
• I, in my capacity as Councillor for Ward 37 of Msunduzi Municipality, submit the following comments on the Background Information Document ("BID") for the S24G application for environmental authorisation of activities in Listing Notices which commenced unlawfully on various portions of Erven 196, 197 and 198 Ashburton.	• Noted.
• 1. DISCREPANCY IN PROPERTIES THAT FORM THE SITE FOR S24G APPLICATION	
• 1.1 There is a discrepancy in the properties as described and depicted in the BID.	• Noted.
• 1.2 The properties are described as Rem of 196; Portion 1 of Erf 196; Rem of 197 and Portion 198 all of Ashburton.	• Noted.
• 1.3. In addition to the properties listed in 1.2 above, Portion 2 of Erf 196 and Portion 1 of 197 of Ashburton are outlined in red in Figure 1.	• Noted.
• 1.4. Which is an accurate account of the subject site for the S24G application?	• The Applicant has commenced with the construction of a Hotel with 46 bedrooms that can sleep a total of 96 people (refer to **Appendix A** for layout plans). The Hotel will include a restaurant, salon, laundry, gym and spa that will be open to guests, as well as to the public. The following infrastructure has been established on site: • Hotel accommodation able to sleep 96 people. • Restaurant. • Salon / health studio. • Laundry. • Gym and spa. • Conference room. • Thatch lapa. • Access road and parking.
• 2. REQUEST FOR DOCUMENTS	
• 2.1. Please furnish me with a copy of	
• 2.1.1. The minutes of the pre-application meeting with the Competent Authority and	• A Pre-Application Meeting is not usually held during a 24G Process. Refer to Appendix G1 for the Notice of Intention to Issue a Compliance Letter, which is the formal correspondence received from the Competent Authority.

• 2.1.2. Layout Plan of the development as described in section titled “What activities are taking place”.	• Refer to Appendix A for layout plans.
• 3. REQUEST FOR ADDITIONAL REPORTS AND ASSESSMENTS	
• 3.1. In addition to the assessments proposed in the BID please add the following specialist reports	
• 3.1.1. Need and Desirability Assessment	• A Needs and Desirability Assessment will not meaningfully contribute to this assessment as the facility has already been established. In addition, the Applicant would not have embarked on such a substantial project without being confident it is economically viable.
• 3.1.2. Watercourse delineation	• Refer to Appendix D5 for the Wetland Impact Assessment.
• 3.1.3. Water quality assessment and water quality monitoring programme	• Refer to Appendix D5 for the Wetland Impact Assessment.
• 3.1.4. Watercourse rehabilitation programme	• Refer to Appendix D5 for the Wetland Impact Assessment.
• 3.1.5. Fire risk assessment	• If applicable, this will be made a condition of the Environmental Authorisation.
• 3.1.6. Bulk and internal services engineering report	• Refer to Appendix D3 for the Bulk and Internal Services Report and Appendix D8 for the Electrical Services Report.
• 3.1.7. Biodiversity Assessment	• Refer to Appendix D1 for the Biodiversity Assessment.
• 3.1.8. Traffic Impact Assessment	• Refer to Appendix D6 for the Traffic Impact Assessment.
• 3.1.9. Geotechnical Investigation	• Refer to Appendix D4 for the Geotechnical Assessment.
• 3.2. if you determine a specialist report in the list above is not necessary, please give reasons in your response.	• Noted. See above.
• 4. FURTHER COMMENTS & QUESTIONS	
• 4.1. I have examined the image of the properties on Google Earth. Which activity/ies in Listing Notice 1 or Listing Notice 3 has/have taken place on	• Refer to Section 1.2 of this Report for the Listed Activities applicable to the development. GNR 327 Activity 19 and 27, and GNR 324 Activities 6, 12 and 14 are applicable.
• 4.1.1. Portion 2 of 196 Ashburton and	
• 4.1.2. Erf 198 Ashburton?	
• 4.2. According to the BID, a Bed and Breakfast facility capable of accommodating 96 people has been constructed.	• Noted. This has since been amended in the report. The development is now being referred to as a Hotel.

• 4.2.1. The size of the building does not comply with the Bed and Breakfast Policy of Msunduzi Municipality nor with the controls for a Bed and Breakfast facility described in the Msunduzi Single Land Use Scheme. • 4.2.2. It is imperative that the facility capable of temporarily accommodating 96 persons is given a description that complies with a definition of building uses described in the Msunduzi Single Land Use Scheme. • 4.2.3. Please amend the description of the accommodation accordingly. • I will submit further comments on receipt of the draft Basic Assessment Report.	• Noted. This has since been amended in the report. The development is now being referred to as a Hotel. • This has been done. It is now being referred to as a Hotel. • Noted.
I&AP, Neighbour	
• I would like to register an objection to the development on the corner of Thorntree Avenue and the R103 in Ashburton for the following reasons. • 1. The present water system cannot supply an extra 46 places, it is already under extreme pressure with many days and weeks of outages for Ashburton and Lynnfield Park. • 2. There is no sewerage system in Ashburton, where is the sewerage going to go for this property? • The soil in the area is clay based, and not absorbent. The buildings are built so closely together that there is no way that there can be adequate soak pits.	• Noted. • Noted. Refer to Appendix D3 for the Bulk and Internal Services Engineering Report. According to the Engineering report, the maximum daily water demand for the development is 10 kl/day and is provided by the Msunduzi Municipality. • Noted. The following infrastructure has already been established: Hotel accommodation, restaurant, salon / health studio, laundry, gym and spa, conference room, thatch lapa and access road and parking. The development will provide their own sanitation system. It is proposed that conservancy tanks will be used. Refer to Appendix D3 for the Bulk and Internal Services Report and Civil Services Layout Plan, and Appendix D4 for the Geotechnical Assessment. Various technical design drawings are also attached at Appendix D3. • Noted. Refer to Appendix D4 for the Geotechnical Assessment. The percolation tests failed; therefore, a conventional Septic Tank and Soakaway system is not suitable. The proposed alternatives are a "*conservancy tank, patented package plant or septic-soakaway system with specially designed evapo-transpirative bed.*" The Applicant has chosen to use a Conservancy Tank system.

• 3. Even in town, one may not build closer than a certain distance from the boundary line, and most of the buildings are very close to their wall. • 4. The owners of the property have put up fencing, cutting off the pathways for the local wildlife that range up and down the stream (Nyala and Zebra).	• Noted. This is a planning issue and will be addressed with the Municipality as part of the SPLUMA Application. • Noted.
I&AP, Neighbour	
• Thank you for the opportunity to comment – I would like to point out a number of observations not noted on the invitation to comment. These are as follows:-	• Noted.
• 1. Buildings are within 32m of a drainage line (more like a stream) that feeds the Lower Mpushini River. The encroachment of the actual buildings and outer wall could not be more on the edge of this stream if they tried. This prevents the thoroughfare of the wildlife, fauna and flora.	• Noted. A retrospective Wetland Assessment (Appendix D5) has been conducted. Two (2) channelled valley-bottom wetlands (HGM Units 1 & 3) were identified on site that has had impacts imparted by the site activities; however, not adversely impacted and remains largely in-situ. These are naturally occurring wetlands that have been features in the landscape prior to 1944; though, they have increased in size due to the cessation of agricultural activities and being in a valley floor, received increased source point stormwater discharges in the developing urban landscape. Two (2) depression wetlands (HGM Units 2 & 4) were identified on site and were impacted by the site activities. HGM Units 2 and 4 have been established in-stream of HGM Unit 1 for the purposes perceived for water storage (i.e., in-stream dams) for livestock watering and agricultural irrigation.
• 2. The drainage from the site is directly into this stream/drainage line – there is rubbish left by building activities in the drainage line, as well as what looks like sewerage running into that stream. I have the photographs. This feeds Lower Mpushini River and then into the Duzi River - many people use that water downstream for drinking, bathing, etc. The wildlife drinks that water as well.	• Noted. Mitigation measures have been provided in the Environmental Management Programme (EMPr) (Appendix E). At present all storm water generated on site percolates into the residual soils and the remainder sheet flows towards the existing stream located at the southern end of the site. The collection of surface runoff from roofs, roads and parking areas will be collected via appropriately sized pipelines, manholes, catch pits, concrete lined v-drains and directed to the existing stream. Refer to Appendix D7 for the Storm Water Details, Refer to

	Appendix D3 for the Bulk and Internal Services Report and Appendix D5 for the Wetland Impact Assessment.
• 3. Clearing of a very large site (2.91 ha) without a prior EIA in an area of conservation significance.	• Noted. The Section 24G Application is currently in process. The Applicant is applying for the continuation of the unauthorised development on site. Refer to Appendix D1 for the Biodiversity Assessment that has been conducted.
• 4. The property is fully paved which will create a large amount of run-off from storm-water and I would like to know whether the drains are adequate?	• The Storm Water Management Plan is included in the Bulk and Internal Services Report (Appendix D3). *"The collection of surface runoff from roofs, roads and parking areas will be collected via appropriately sized pipelines, manholes, catch pits, concrete lined v-drains and directed to the existing stream. The pipeline that will flow into the stream must receive energy dissipation and scour protection to prevent scouring of the existing riverbanks."* Refer to Appendix D7 for the Storm Water Design Details.
• 5. And whether the septic tanks for that number of units are sufficient and large enough.	• Refer to Appendix D3 for the Bulk and Internal Services Report. It has been confirmed that septic tanks will not be used for the development but rather conservancy tanks, as a result of the Percolation Tests failing (Appendix D4).
• 6. The solar panels on the units are lying flat against the thatching of the various buildings – that is probably a severe fire hazard, and the thatch below the panels will most likely rot. Please clarify what precautions exist.	• Noted. Green Door Environmental has liaised with various solar installation companies and The South African Photovoltaic Industry Association (SAPVIA) and VALSA Trading (Pty) Ltd who provide solar mounting system solutions; all of which have stated that installing solar panels on a thatch roof is a fire and safety hazard issue and are unaware of this being done before. Therefore, it is not recommended that solar panels be installed on a thatch roof. Additionally, there are no installation certificates for the solar panels. Therefore, if the Competent Authority (DEDTEA) requests that the solar panels be removed, then this will be included as a condition in the Environmental Authorisation. This has been communicated to the Applicant.

• 7. No notice taken of where the building lines are – just built on the edge of the property. The front wall and huge tarred road frontage to the complex appear to encroach Thorntree Rd servitude quite substantially. • 8. The area is zoned Equine Residential and as such is not zoned for business activities as envisaged. That is for a good reason based on soil type and conservation, and certainly 96 bedroomed hotel is not a BNB. • Will these reports encompass the electrical aspect with situation of solar panels flush on the thatch - fire hazard, etc as well as encroachment on the roadway?	• This is a planning issue, and thus will be addressed during the SPLUMA Application with the Municipality. • Noted. This will be addressed during the SPLUMA Application and the rezoning process. It is proposed that the property will be rezoned to Tourism 1. The Application and Report now refers to the development as a Hotel. • We do not have any reports that encompass the electrical aspect of the solar panels being installed on the thatch roofs. Green Door Environmental has liaised with various solar installation companies and The South African Photovoltaic Industry Association (SAPVIA) and VALSA Trading (Pty) Ltd who provide solar mounting system solutions; all of which have stated that installing solar panels on a thatch roof is a fire and safety hazard issue and are unaware of this being done before. Therefore, it is not recommended that solar panels be installed on a thatch roof. Additionally, there are no installation certificates for the solar panels. Therefore, if the Competent Authority (DEDTEA) requests that the solar panels be removed, then this will be included as a condition in the Environmental Authorisation. This has been communicated to the Applicant.
I&AP, Neighbour	
• Dear Sir/Madam, • I should like to lodge an objection to this development on the following grounds: • 1. My property [redacted] is part of the gazetted Lower Mpushini Protected Area. The Mpushini River and its riparian area is an important pathway for game; nyala, kudu, duiker, legavaan, python, Zebra amongst these. The above development is built on the banks of the Mpushini river and has already encroached on the riparian area and blocked these game trails. • 2. Clearing of more than one hectare of bush within a 4km radius of a gazetted protected area is allowed only with special permission. The above development is within this 4 km radius.	• Noted. • Noted. • Noted. The following listed activity has been applied for - GNR 324 Activity 12: "*The clearance of an area of 300*

	square metres or more of indigenous vegetation except where such clearance of indigenous vegetation… *d. KwaZulu-Natal…* *v. Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans…* *xii. Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the act and as adopted by the competent authority…"*
• 3. The Mpushini River is a precious resource in our area, especially for fishing. There are many people in our area for whom this could be an important food source if the river was clean.	• Noted.
• 4. There is no sewerage plant for Ashburton. All the properties have to work on septic tanks. Ashburton was originally divided into 5 acre plots because it is on shale and dolorite and there is very poor water percolation. A five acre plot was the area judged to be able to safely deal with the water and sewerage from one family with no health hazard. A 46 room B & B and a conference centre plus other development will certainly be far more than one five acre plot can safely deal with. This level of development is a health hazard. There is already sewerage overflow into the Mpushini River. Please refer back to point number 2.	• Noted. The preferred sewerage system is via conservancy tanks. It is proposed that the sewage will be disposed of at the Darvill Wastewater Treatment Works. Refer to Appendix D3 for the Bulk Internal Services and Engineering Report. Refer to Appendix D4 for the Geotechnical Assessment which states that the percolation tests failed, therefore septic tanks and soakaways are not a feasible option.
• 4. Ashburton is zoned agricultural residential. It is the only such suburb in the greater Durban/ Pietermaritzburg area. It is the only suburb in which one may keep livestock and still be within commuting distance of town. The largely illegal over-development in Ashburton has made it impossible to ride horses anymore. It is just too dangerous.	• Noted. It is proposed that the site be rezoned to Tourism 1. This will be addressed during the SPLUMA Application.
• 5. There is reluctance on the part of local residents to object because the owner of the plot is part of one of the security companies working in Ashburton. When I posted the information about this development on our local group the following text message was immediately directed at me, "The same people protecting us at night and you want to post this kind of message?" and the following text directed at everyone in the group, "When Ashburton no longer has patrols don't cry." These messages came from an unnamed number on the group, 0784375004.	• Noted. All I&APs are entitled to comment (anonymously if preferred) on all reports or plans during the Public Participation Process. All comments will be included in the Draft and Final Reports. Green Door Environmental acts independently from the Applicant.
I&AP, Neighbour	
• I would like to object to this development on the following grounds.	• Noted.

• The property borders on a stream that feeds into the Mpusheni River, and the sewage/drainage could pose a major the river. I have noticed that outside channels have already been dug in an attempt to fix the drainage issue.	• Noted. Refer to Appendix D5 for the Wetland Assessment. According to the Wetland Assessment, a channeled valley-bottom wetland, abuts the R103 roadway where flows are confined and directed via culvert to a Tributary of the Mpushini River.
• I also would like to question if the property could house so many buildings on it.	• Total property extent is 6.36 ha. The property is large enough to house all of the rooms. However, in terms of the SPLUMA Application, this still needs to be approved.
• Then there is also the concern of increased traffic in an already burdened road, that seems to only be getting worse. Thank you.	• Noted. Refer to Appendix D6 for the Traffic Impact Assessment (TIA). The TIA concluded that the development would have a negligible impact on the surrounding road network. It was concluded that all movements at the intersections analysed will operate at acceptable levels of service.
Msunduzi Local Municipality	
• With reference to the Background Information Document (BID) for the 24G application process for unlawful activities on the remainder of Erf 196, portion 1 of Erf 196, the remainder of Erf 197 and Erf 198, Ashburton. A site visit was conducted on the 16th of January 2023 and the property has been assessed against the gazetted Municipal Environmental Management Framework (EMF).	• Noted.
• 1. The Msunduzi EMF has identified Biodiversity Development Constraint, High Water Quality Constraints, and High Air Quality Constraints. However, a site visit confirmed presence of a watercourse, two wetland systems and indigenous trees as well as grass species were identified on the application site.	• Noted. Refer to Appendix D1 for the Biodiversity Assessment and Appendix D5 for the Wetland Assessment. Section 9.4 of this Report addresses the findings of the Surface Water and Wetland Systems. Section 9.5 addresses the findings of the Biodiversity Assessment on site. A summary of findings from the Biodiversity Assessment concluded that the original vegetation on the property was characterised by Eastern Valley Bushveld (Appendix D1). The ecological status of the vegetation type was ranked 'Least Threatened' and is 'Nominally Protected'. A Critical Biodiversity Area (CBA) Irreplaceable was indicated as occurring on the site. The assessed areas were Irreversibly Modified in parts where buildings, roads and gardens have been constructed, and

	Highly Modified in other areas where vegetation clearing has occurred with drains, roads and/or new accommodation units under construction. 4.7 ha of indigenous vegetation was diverse with key species representative of Eastern Valley Bushveld. It is recommended by the Biodiversity Specialist that the removal of the structures and all building materials from a 0.26 ha cleared area within the CBA Area be completed, and this area be allowed to be rehabilitated with indigenous vegetation. The animal species reflected the differences in past land use, of which part was a good example of Eastern Valley Bushveld and part was croplands and areas developed for housing. Animal species sensitivity was ranked High for a large part of the site that included the CBA Irreplaceable area. In considering ecological corridors for fauna, the loss of habitat on the construction site was a Low impact because most of the site was previously developed or cultivated prior to the recent development. Two (2) channelled valley-bottom wetlands (HGM Units 1 & 3) were identified on site that has had impacts imparted by the site activities; however, not adversely impacted and remains largely in-situ. These are naturally occurring wetlands that have been features in the landscape prior to 1944; though, they have increased in size due to the cessation of agricultural activities and being in a valley floor, received increased source point stormwater discharges in the developing urban landscape. Two (2) depression wetlands (HGM Units 2 & 4) were identified on site and were impacted by the site activities. HGM Units 2 and 4 have been established in-stream of HGM Unit 1 for the purposes perceived for water storage (i.e., in-stream dams) for livestock watering and agricultural irrigation.

• 2. The Msunduzi Ecosystem Services Plan (ESP) and Conservation Plan (C-Plan) have indicated that the application site has no environmental constraints.	• Noted.
• 3. The property has also been reviewed against the proposed activity which may require compliance with the National Environmental Management Act (NEMA), 1998 (Act No. 107 of 1998); and listed activities may have been triggered by illegal development on the application site.	• Noted. GNR 327, Activity: 12, 19 and 27 are triggered. GNR 324, Activity: 4, 6, 12 and 14 are also triggered.
• 4. All sensitive areas specifically wetland areas must be demarcated or avoided (marked as no-go area) during any construction activities on the application site.	• Noted. This has been done. Refer to Appendix D5 for the Wetland Assessment. The wetland specialist has proposed a 32 m wetland buffer. Refer to Figure 6 for a map that depicts the wetland buffer area.
• 5. Further, it is highlighted that there may be a requirement for a Water Use License Application (WULA) in terms of Section 21 of the National Water Act (Act no.36 of 1998); hence the applicant is advised to consult with the regional Department of Water and Sanitation (DWS). A letter from the regional Department of Water and Sanitation (DWS) confirming authorisation to continue with the development within water resources must be provided to this unit.	• Noted. Green Door Environmental is handling the Section 24G Environmental Authorisation process. We have not been appointed to do a Water Use Licence Application.
• 6. A detailed storm water management plan must be attached to the building plan submission.	• This will be done when the town planner submits the application to the Municipality.
• 7. Please ensure that the National Environmental Act (NEMA Act No. 107, 1998) Duty of care and remediation of environmental damage (Section 28) regulation is enforced and complied with.	• This will be done.
• 8. Under no circumstances should builder's rubble/waste material be dumped illegally. Waste must be recycled/re-used or disposed of at a registered landfill site. Please ensure to provide proof of safe disposal upon request.	• Noted, this is included in the Environmental Management Programme (EMPr) (Appendix E).
• Please contact this unit should you require clarity or further information.	• Noted.
I&AP, Neighbour	
• I would like to register an objection to the development on the corner of Thorntree Avenue and the R103 in Ashburton for the following reasons.	• Noted.
• 1. The present water system cannot supply an extra 46 places, it is already under extreme pressure with many days and weeks of outages for Ashburton and Lynnfield Park.	• Refer to Appendix D3 for the Bulk and Internal Services Engineering Report. According to the Engineering Report, the maximum daily water demand for the development is 10 kl/day which will be provided by the Msunduzi Municipality.

• 2. There is no sewerage system in Ashburton, where is the sewerage going to go for this property?	• The preferred sewerage system is via conservancy tanks. It is proposed that the sewage will be taken to Darvill Wastewater Treatment Works. Refer to Appendix D3 for the Bulk Internal Services and Engineering Report. Refer to Appendix D4 for the Geotechnical Assessment which states that the percolation tests failed, therefore septic tanks and soakaways are not a feasible option.
• The soil in the area is clay based, and not absorbent. The buildings are built so closely together that there is no way that the there can be adequate soak pits.	• Noted. Refer to Appendix D4 for the Geotechnical Assessment. In terms of the geological characteristics on site, the site is underlain by a thin mantle of colluvial and residual soils, which overlie generally shallow tillite bedrock beneath the site. The site is considered stable for the proposed development. The results of the percolation tests indicate that the soils beneath the site are not suitable for the use of conventional septic tank and soakaway systems. This is because of the generally shallow bedrock beneath the site area. Therefore, due to no municipal water-borne sewage system available in the area, a conservancy tank is proposed.
• 3. Even in town, one may not build closer than a certain distance from the boundary line, and most of the buildings are very close to their wall.	• This will be addressed with the SPLUMA Application.
• 4. The owners of the property have put up fencing, cutting off the pathways for the local wildlife that range up and down the stream (Nyala and zebra).	• Noted.
I&AP, Neighbour	
• Good evening. I [redacted] Road would like to register an objection to the development on the corner of Thorntree Avenue and the R103 in Ashburton for the following reasons.	• Noted.
• 1. There is no sewerage system in Ashburton and doubt that this property could manage this. I have lived in Ashburton for over forty-one years and due to the clay soil my late husband managed to only allow toilets to go into our soap pit and one shower. I have 2.7 ha and doubt very much if Thorntree Avenue will have adequate soak pits.	• Refer to Appendix D4 for the Geotechnical Assessment. In terms of the geological characteristics on site, the site is underlain by a thin mantle of colluvial and residual soils, which overlie generally shallow tillite bedrock beneath the site. The site is considered stable for the proposed development. The results of the percolation tests indicate that the soils beneath the site are not suitable for the use

	of conventional septic tank and soakaway systems. This is because of the generally shallow bedrock beneath the site area. Therefore, due to no municipal water-borne sewage system available in the area, a conservancy tank is proposed.
• 2. The present water reticulation will not be able to supply this property as it is already under extreme pressure with ongoing outages.	• Refer to Appendix D3 for the Bulk and Internal Services Engineering Report. According to the Engineering report, the maximum daily water demand for the development is 10 kl/day and will be provided by the Msunduzi Municipality.
• 3. I have wild life visiting me on my property all year round and with this development , I am certain that the wildlife that we have been used to, will no longer have their lives with us . We are continuously eroding their space.	• Refer to Appendix D1 for the Biodiversity Assessment. The Biodiversity Specialist confirmed that the Animal Species Sensitivity was ranked High for a large part (more than 60%) of the site that included the CBA Irreplaceable portion. Impacts on fauna in general were considered Low in the developed Area B because the pre-development vegetation was modified through cultivation and housing. Most species on the impacted sites on Area B would have been mobile and able to migrate to suitable vegetation in Area A.
I&AP, Neighbour	
• Dear Hannah, as a resident of Ashburton, I wish to express my objection in the strongest terms to the section 24G application process for unlawful activities on the remainder of Erf 196, portion 1 of Erf 196, the remainder of Erf 197 and Erf 198, Ashburton, KZN.	• Noted.
• It is sickening that the developer can commit these environmental crimes and then simply apply for a section 24G application and proceed as before. It is a slap in the face of the community and the environment.	• Noted.
• The area is well known for its biodiversity (as supported by systematic conservation plans and numerous protected areas in the vicinity). This development negatively impacts on this biodiversity and free ranging game.	• Noted. A Biodiversity Assessment (Appendix D1) and Wetland Assessment (Appendix D5) has been conducted. Two (2) channelled valley-bottom wetlands (HGM Units 1 & 3) were identified on site that has had impacts imparted by the site activities; however, not adversely impacted and remains largely in-situ. These are naturally occurring wetlands that have been features in the landscape prior

	to 1944; though, they have increased in size due to the cessation of agricultural activities and being in a valley floor, received increased source point stormwater discharges in the developing urban landscape. Two (2) depression wetlands (HGM Units 2 & 4) were identified on site and were impacted by the site activities. HGM Units 2 and 4 have been established in-stream of HGM Unit 1 for the purposes perceived for water storage (i.e., in-stream dams) for livestock watering and agricultural irrigation. It has been confirmed that the original vegetation on the property was characterised by Eastern Valley Bushveld. The ecological status of the vegetation type was ranked 'Least Threatened' and is 'Nominally Protected'. A Critical Biodiversity Area Irreplaceable was indicated as occurring on the site. The assessed areas were Irreversibly Modified in parts where buildings, roads and gardens have been constructed, and Highly Modified in other areas where vegetation clearing has occurred with drains, roads and/or new accommodation units under construction. 4.7 ha of indigenous vegetation was diverse with key species representative of Eastern Valley Bushveld. It is recommended by the Biodiversity Specialist that the removal of the structures and all building materials from a 0.26 ha cleared area within the CBA Area be completed, and this area be allowed to be rehabilitated with indigenous vegetation. The animal species reflected the differences in past land use, of which part was a good example of Eastern Valley Bushveld and part was croplands and areas developed for housing. Animal species sensitivity was ranked High for a large part of the site that included the CBA Irreplaceable area. In considering ecological corridors for fauna, the loss of habitat on the construction site was a Low impact because most of the site was previously developed or cultivated prior to the recent development.

• The town planning scheme supports low density development. Our area currently experiences many water outages and adding additional pressure from a high-density development with conferencing facilities will exacerbate an already bad situation. We rely on septic tanks in the area (another reason for low density development only) with a soil types that does not support good drainage.	• Noted. Refer to Appendix D3 for the Bulk and Internal Services Engineering Report. According to the Engineering report, the maximum daily water demand for the development is 10 kl/day and will be provided by the Msunduzi Municipality. Refer to Appendix D4 for the Geotechnical Assessment. In terms of the geological characteristics on site, the site is underlain by a thin mantle of colluvial and residual soils, which overlie generally shallow tillite bedrock beneath the site. The site is considered stable for the proposed development. The results of the percolation tests indicate that the soils beneath the site are not suitable for the use of conventional septic tank and soakaway systems. This is because of the generally shallow bedrock beneath the site area. Therefore, due to no municipal water-borne sewage system available in the area, a conservancy tank is proposed.
• The development will negatively impact neighbours and the community through noise and traffic from the B&B, restaurant, salon , laundry, gym, spa and conference facilities and delivery vehicles. It negatively impacts the sense of place of Ashburton.	• Refer to Section 8.6 for potential impacts and proposed mitigation measures for the noise. Refer to Appendix E for the Environmental Management Programme.
• Additional traffic will add to the burden already being experienced by residents due to the road works and frequent accidents on the N3, causing traffic diversions onto the R103.	• Refer to Appendix D6 for the Traffic Impact Assessment (TIA). The TIA concluded that the development will have a negligible impact on the surrounding road network. All movements at the intersections analysed will operate at acceptable levels of service.
• The negative impact on water courses on the property is not acceptable and development should not be closer that 32m of a water course.	• Refer to Appendix D5 for the Wetland Impact Assessment. A 32m wetland buffer must be implemented. The following mitigation measures are proposed: o A 32 m buffer has been applied to the HGM Units identified. HGM Units 1 – 4 are the only buffers that have been intersected by the site with site activities resulting in an impact onto the HGM Units.

	o It is recommended that the removal of all invasive alien plants within the impacted HGM Units 1 - 4 and the initial 10 metres of the 32 m buffer zone. o Application of herbicides is not recommended due to the risks of contaminating aquatic environments and surface water resources downstream. Where chemical application is required, this should be done with care and under supervision. o It is recommended that the monitoring of the rehabilitation activities be undertaken. This will ensure implementation of remediation measures to achieve a level of freshwater ecosystem integrity and functionality that is an improvement from the current situation on site.
• The storm water runoff will be high due to extensive hard surfaces of the development, potentially causing soil erosion and damage to infrastructure downstream.	• The Storm Water Management Plan is included in the Bulk and Internal Services Report (Appendix D3) and states: "*The collection of surface runoff from roofs, roads and parking areas will be collected via appropriately sized pipelines, manholes, catch pits, concrete lined v-drains and directed to the existing stream. The pipeline that will flow into the stream must receive energy dissipation and scour protection to prevent scouring of the existing riverbanks*." Refer to Appendix D7 for the Storm Water Design Details.
• Crime levels have been soaring of late and additional people frequenting the facilities poses an increased risk to the community.	• It is proposed that five security guards will be employed during the operational phase on site on the property.
• Have the properties been rezoned into commercial properties?	• The property must still be rezoned. It is proposed that the site be rezoned to Tourism 1.
• The Upper Mpushini Conservancy should also be contacted as an interested and affected party. Please acknowledge receipt of my email.	• Noted. The Upper Mpushini Conservancy is a registered Interested & Affected Party. Refer to Appendix C1 for the I&AP List.
I&AP, Neighbour	

• Hi, please note I object to the B&B on corner Thorntree and R103 in Ashburton. I live just along the road 74 R103 and the traffic and noise will be dreadful.	• Noted. Refer to Section 7.6 of this Report for identified noise related impacts and proposed mitigation measures and recommendations. The Environmental Management Programme (EMPr) will be implemented which must be complied with for the lifetime of the project. Refer to Appendix E for the EMPr.
KZN Department of Agriculture and Rural Development (DARD)	
• 1. General • 1.1. The Provincial department of Agriculture and Rural Development acknowledges receipt of the Background Information Document. • 1.2. The submitted BID seeks to notify interested and affected parties of the Section 24G application process and solicit comments from the department on the Section 24G application process in terms of NEMA, Act 107of1998. • 2. Background • 2.1.The applicant, Movito (Pty) Ltd wishes to make a retrospective environmental application, via the 24G Application Process, for unlawful activities which have taken place on the Remainder of Erf 196, Portion 1 of ERF 196, the Remainder of ERF 197 and ERF 198. • 2.2. In terms of the Environmental Impact Assessment (EIA) Regulations 2014 (as amended 2017 and 2022) published in Government Notice No. R 324, 325, 326 and 327 of 2017, the application had the potential to trigger the following listed activities.	• Noted. • Noted. • Noted. • Noted.

Activity	Description
GNR 327, activity 19	"the infilling or depositing of any material of more than 10m³ into, or the dredging, excavation, removal or moving of soil, sand shells, shell grit, pebbles or rock of more than 10m³ from (i) A watercourse
GNR 327, Activity 27	The clearance of an area of 1ha or more, but less than 20ha of indigenous vegetation, except where such clearance of indigenous vegetation is required for – (i) The undertaking of a linear activity; or (ii) maintenance purposes undertaken in accordance with a maintenance management plan (ii) (ii) maintenance purposes undertaken in accordance with a maintenance management plan.
GNR 324, activity 6	" the development of resorts, lodges, hotels, (and) tourism or hospitality facilities that sleeps 15 people or more (d) KwaZulu Natal vii) critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans. xi). Sensitive areas as identified is an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority.
GNR 324, activity 12	The clearance of an area of 300m² or more of indigenous vegetation except where such clearance of indigenous vegetation is required for maintenance purposes undertaken in accordance with a maintenance management plan d. KwaZulu Natal v. critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans xii. sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the act and as adopted by the competent authority.
GNR 324, activity 14	The development of (ii) Dams, where the dam, including infrastructure and water surface area exceeds 10m² in size (xii) infrastructure or structures with a physical footprint of 10m² or more (i) Dams or weirs, where the dam or weir, including infrastructure and water surface area exceeds 10m²; or (ii) infrastructure or structure with a physical footprint of 10m² or more; Where such development occurs – (a) Within a watercourse; (b) If no development setback has been adopted, within 32m of a watercourse, measured from the edge of a watercourse (d) KwZulu Natal (vii) critical diversity areas or ecological support areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans

- 2.3. The applicant commenced with the construction of the following infrastructure prior to obtaining Environmental Authorisation:
  - Bed &Breakfast able to sleep 96 people;
  - Restaurant;
  - Salon;

- Noted.

o Laundry; o Gym and Spa; o Conference room; o Access road; and o Septic tank and soakaways .	• Noted.
• 2.4. The extent of the development is approximately 2.91ha.	• This is correct.
• 3. Site observations	
• 3.1. The site is within a developing area, with houses scattered around it, however, amongst natural vegetation (woodland).	• Noted.
• 3.2. Remainder of ERF 196 and portion 1 of ERF 196 are largely cleared of the natural vegetation.	• Noted.
• 3.3. Portion 1 of ERF 197 is about 30% transformed, remainder of ERF 197 is about 10% transformed.	• Noted.
• 3.4. ERF 198 is largely untouched. There is no agricultural activity anywhere near or on site.	• Noted.
• 4. Comments	
• 4.1.As indicated above, the site is within houses and other similar developments (guest house) and there are no agricultural activities in the vicinity.	• Noted. This is correct.
• 4.2. The current development has no impact on agriculture whatsoever, however, there is a depressed area within Remainder of ERF 196 that needs to be properly identified as to the type of wetland.	• Noted. Refer to Appendix D5 for the Wetland Assessment. The findings of the Wetland Assessment concluded that there are two (2) channelled valley-bottom wetlands (HGM Units 1 & 3) were identified on site that has had impacts imparted by the site activities; however, not adversely impacted and remains largely in-situ. These are naturally occurring wetlands that have been features in the landscape prior to 1944; though, they have increased in size due to the cessation of agricultural activities and being in a valley floor, received increased source point stormwater discharges in the developing urban landscape. Two (2) depression wetlands (HGM Units 2 & 4) were identified on site and were impacted by the site activities. HGM Units 2 and 4 have been established in-stream of HGM Unit 1 for the purposes perceived for water storage (i.e., in-stream dams) for livestock watering and agricultural irrigation.

• 5. Concluding statement • 5.1 The provincial Department of Agriculture and Rural Development, Agricultural Resources Management directorate requests that the basic assessment report or the EIA, whichever applies provides details of the mitigation measures around the depressed area assumed to be wetland.	• Noted. This has been done. Refer to Appendix D5 for the Wetland Assessment. A rehabilitation plan has been included in the Wetland Assessment.
The Department of Forestry, Fisheries and Environment (DFFE)	
• The Department of Forestry, Fisheries and Environment (DFFE) appreciates the opportunity given to review and comment on the above-mentioned application. DFFE through the sub-directorate Forestry Regulations and Support is the authority mandated to implement the National Forests Act No. 84 of 1998 by regulating the use of natural forests and protected trees species in terms of the said Act. The purpose of this Act is to promote sustainable forest management and the development of forests for the benefit of all.	• Noted.
• With reference to the above-mentioned Section 24G application received on the 25 November 2022, the applicant has commenced with a mixed-use development where approximately 2.91 ha of land was utilized without obtaining an environmental authorisation. Upon review of the BID document, the unlawful development might have triggered activity 27 which speaks to the clearance of indigenous vegetation, at this stage it is not clear what type of vegetation was affected.	• Noted.
• Therefore, the Department requests that a biodiversity assessment study be conducted. This study should include the condition and the type of vegetation and species which may have been found on the site as well as the extent to which they may have been impacted upon. The Department further requests that the study addresses the potential impacts of the proposed project on natural forest (s) and or protected trees occurring within or in close proximity to the proposed project site.	• Refer to Appendix D1 for the Biodiversity Assessment. The original vegetation on the property was characterised by Eastern Valley Bushveld (Appendix D1). The ecological status of the vegetation type was ranked 'Least Threatened' and is 'Nominally Protected'. A Critical Biodiversity Area Irreplaceable was indicated as occurring on the site. The assessed areas were Irreversibly Modified in parts where buildings, roads and gardens have been constructed, and Highly Modified in other areas where vegetation clearing has occurred with drains, roads and/or new accommodation units under construction. 4.7 ha of indigenous vegetation was diverse with key species representative of Eastern Valley Bushveld. It is recommended by the Biodiversity Specialist that the removal of the structures and all building materials from a 0.26 ha cleared area within the

	CBA Area be completed, and this area be allowed to be rehabilitated with indigenous vegetation. The animal species reflected the differences in past land use, of which part was a good example of Eastern Valley Bushveld and part was croplands and areas developed for housing. Animal species sensitivity was ranked High for a large part of the site that included the CBA Irreplaceable area. In considering ecological corridors for fauna, the loss of habitat on the construction site was a Low impact because most of the site was previously developed or cultivated prior to the recent development.
• Substantial comments will be issued upon receipt and review of vegetation assessment study. This letter does not exempt you from considering other environmental legislations. Should any further information be required, please do not hesitate to contact this office.	• Noted. A copy of the Draft Section 24G Report will be sent to the Department of Forestry, Fisheries and the Environment (DFFE).
Edith Elliot, Msunduzi Ward Councillor	
• Dear Hannah • APPLICATION S24G, ASHBURTON • I would like to register as an I and AP and the Councillor of the area and would like a copy of the application. • I have long been worried about the compliance of this construction and have recently asked for an investigation, especially as this property currently extends right to the edge of a tributary of the little Mpushini River (and a riverine reserve has been occupied), too many toilets etc were originally planned and this development seems to have continued without finalisation of plans and approval.	• Noted. This has been done - refer to Appendix C1 for the I&AP list. • Noted. Green Door Environmental spoke to Ms Xoli Madiba from the Compliance, Monitoring and Enforcement (CME) Division within the Department of Economic, Development, Tourism and Environmental Affairs (DEDTEA) and it was confirmed that construction activities are not allowed to continue whilst the Section 24G Application process is unresolved. Ms Madiba was alerted to the fact that they are continuing with construction activities. Green Door Environmental contacted the Applicant and instructed and informed them that construction may not continue until the Section 24G Application is resolved.
I&AP	
• Dear Hannah,	

• Please add LAND MATTERS to the register of interested and affected parties for the S24G application over Erven 196, 197 and 198 Ashburton. • Please may I have a copy of BID for the application. • Please acknowledge receipt of this email.	• This has been done - **r**efer to Appendix C1 for the I&AP list. • The Background Information Document was forwarded to the I&AP. • The email was acknowledged.
Eskom	
• Please see comments below, as per your request received by Eskom on 09th January 2023. We confirm that an investigation has been carried out with regard to the supply of electricity, as well as any encroachment into Eskom's Servitudes, in respect to the application as set out above referring to Locality Plan supplied by Greendoor Group Wayleaves. • Eskom has no objection to the proposed application, as there are no Eskom HV Lines i.e. 132-kV, 88-kV and 33-kV lines neither are there MV Lines i.e. 22-kV or 11-kV lines/cables depicted on our system that traverse over area of interest. Please note that Eskom's LV data is currently not available. If you come across any underground cables in the area, please contact Eskom immediately on 08600 37566 • Whilst on the ground, should you physically detect any other conductors and/or underground cables (not Eskom property) located on the site, kindly inform the relevant Municipality who will advise you accordingly.	• Noted. • Noted. • Noted.

6.4 Public Information Session

A Public Information Session was held on Wednesday, 22 February 2023 between 16h00 – 18h00 at the Ashburton Hall, KwaZulu-Natal. The purpose of a Public Information Session is to provide information to I&APs on the project, present the major concerns raised to date, and give I&APs the opportunity to raise any additional issues which they feel should be addressed during the process. All I&APs were notified of the Public Information Session from 27 January 2023.

The purpose of this Public Information Session was to:

- Provide information to I&APs on the project;
- Present the major concerns raised to date regarding the project; and
- Give I&APs an opportunity to raise any additional issues which they feel should be addressed.

The Public Information Session consisted of a presentation in poster format , whereby all available information on the development and environmental process was provided in poster format at the meeting. The I&APs were given the chance to read through the information on the posters and were given the opportunity to ask questions and raise any concerns. During the Public Information Session, the Environmental Consultants documented the concerns raised by the I&APs regarding the project.

The following project team member from Green Door Environmental was present:

- Roxanne van Rooyen – Environmental Consultant
- Hannah Markham – Environmental Consultant

Comments received before and during the Public Information Session are included in **Table 8** (refer to **Appendix C6** for the Public Information Session notification, attendance register, handout and a photograph). Additional information has also been provided where it has become available, and the responses changed where applicable.

Table 8: Comments received during the Public Information Session.

SOURCE	COMMENT	RESPONSE
I&AP	The walls on the boundary fence have been moved. This may have been infringed on the building line. SANRAL has planned to upgrade the R103, this wall and some of the building may need to be demolished or moved.	This will be addressed during the SPLUMA Application.
I&AP	In terms of the Municipal Town Planning Scheme, a bed and breakfast is limited to 12 travellers or less, and not more than 5 cars can be on the property.	Noted. This description was made in error. It is being referred to as a Hotel. A rezoning application will be required. The Applicant has appointed a town planner for the rezoning application process. It is proposed that the property will be rezoned to Tourism 1.
I&AP	Many people are feeling intimidated by MI7, who is owned by the Applicant of this development.	All I&APs are entitled to comment (anonymously if preferred) on all reports or plans during the Public Participation Process. All comments will be included in the Draft and Final Reports. Green Door Environmental acts independently from the Applicant.
I&AP	The Applicant also hasn't gotten permission from the neighbours to build and operate a Hotel.	Noted. This will be addressed during the SPLUMA Application.
I&AP	The solar panels on the thatch roofs is a problem.	Green Door Environmental has liaised with various solar installation companies and The South African Photovoltaic Industry Association (SAPVIA) and VALSA Trading (Pty) Ltd who provide solar mounting system solutions; all of which have stated that installing solar panels on a thatch roof is a fire and safety hazard issue and are unaware of this being done before. Therefore, it is not recommended that solar panels be installed on a thatch roof. Additionally, there are no installation certificates for the solar panels. Therefore, if the Competent Authority (DEDTEA) requests that the solar panels be removed, then this will be included as a condition.
I&AP	How will noise impacts be addressed and mitigated? I am concerned about noise.	The Environmental Management Programme (EMPr) (Appendix E) will be implemented for the entire lifetime of the project. Refer to Section 7.6 of this Report for potential impacts pertaining to noise and the proposed rehabilitation and mitigation measures. It is recommended that activities of construction vehicles, building contractors and labourers should be limited to working hours between 7.30am and 5pm during weekdays. Furthermore, construction on weekends and public holidays should not be permitted. Machinery and equipment must be maintained and

		regularly serviced to ensure that unnecessary noise is prevented. Workers on site must not create unnecessary noise such as hooting or shouting. Dust from the construction site must be managed in an efficient and environmentally sensitive manner (e.g. dampening, stockpile covered if not used for more than 3 weeks). To minimise noise during the operational phase, the development is to be operated in a manner that does not result in any negative impacts to the adjacent residents, i.e. excess noise, hooting, loud music at the facility is to be prohibited. The Applicant must comply with the Municipal by-laws of the area in terms of noise restrictions for the area.
I&AP	Where is the sewage going to go as there is no approval for this. There is no municipal sewer line, and the municipality has no budget available to upgrade the sewage infrastructure in the area. A septic tank / conservancy tank will never cope for 96 people to stay at the Hotel and the number of bathrooms.	A Geotechnical Assessment (Appendix D4) and Bulk and Internal Services Report (Appendix D3) have been conducted. It has been confirmed that septic tanks and soakaways are not feasible for the development, as the percolation tests failed. Conservancy tanks are being proposed.
I&AP	Already there is a pipe that is in the river where waste is being discharged.	A Geotechnical Assessment (Appendix D4) and Bulk and Internal Services Report (Appendix D3) have been conducted. It has been confirmed that septic tanks and soakaways are not feasible for the development, as the percolation tests failed. Conservancy tanks are being proposed. The Wetland Specialist did not note or identify any pipes discharging waste into the river. The Mpushini River is also not on the Thorntree Hotel property, as this river is located to the east of the property.
I&AP	Everything was erected and built prior to permission or approval being obtained. This is not permissible under the current zoning of Equestrian Residential. In terms of SPLUMA and planning, nothing has been approved for a Hotel.	Noted. The Applicant has appointed a town planner to conduct the rezoning application process. It is proposed that the property will be rezoned to Tourism 1.
I&AP	SANRAL will realign the roads and the buildings may be affected, as the contractor has built right up to the road and wall.	Noted. The Applicant has appointed a town planner to conduct the SPLUMA application process.
I&AP	With the number of bathrooms, where is all the sewage going to go?	A Geotechnical Assessment (Appendix D4) and Bulk and Internal Services Report (Appendix D3) was conducted. It has been confirmed that septic tanks and soakaways are not feasible for the development, as the percolation tests failed. Conservancy tanks are being proposed. Refer to Appendix D3 for the Civil Services Layout plan.

I&AP	The site is within 4km of the Mpushini Protected Area.	Noted, a Biodiversity Assessment was undertaken (Appendix D1). The original vegetation on the property was characterised by Eastern Valley Bushveld. The ecological status of the vegetation type was ranked '*Least Threatened*' and is '*Nominally Protecte*d'. A Critical Biodiversity Area Irreplaceable was indicated as occurring on the site. The assessed areas were *Irreversibly Modified* in parts where buildings, roads and gardens have been constructed, and *Highly Modified* in other areas where vegetation clearing has occurred with drains, roads and/or new accommodation units under construction. 4.7 ha of indigenous vegetation was diverse with key species representative of Eastern Valley Bushveld. It is recommended by the Biodiversity Specialist that the removal of the structures and all building materials from a 0.26 ha cleared area within the CBA Area be completed, and this area be allowed to be rehabilitated with indigenous vegetation. The animal species reflected the differences in past land use, of which part was a good example of Eastern Valley Bushveld and part was croplands and areas developed for housing. Animal species sensitivity was ranked High for a large part of the site that included the CBA Irreplaceable area. In considering ecological corridors for fauna, the loss of habitat on the construction site was a *Low* impact because most of the site was previously developed or cultivated prior to the recent development
I&AP	Waste is being discharged into the river. People cannot fish here anymore.	Noted.
I&AP	The area also has water constraints. If the development is abstracting water from the river, why hasn't a Water Use Licence been applied for?	Green Door Environmental was appointed to undertake the 24G Process. The Applicant will be obtaining water from the existing 110 mm municipal water line which supplies water to the existing properties along the road (refer to Appendix D3 for the Bulk and Internal Services Report).
I&AP	Ashburton is zoned Equestrian Residential. No one can ride a horse in the area anymore. There are no other areas or suburbs zoned Equestrian Residential between Pietermaritzburg and Durban. There	Noted, this will be addressed during the Planning Process.

	are lots of people with livestock. Will the Applicant soon start complaining about the livestock being a problem?	
I&AP	Ashburton is battling with illegal truck stops, people dumping rubbish and waste illegally.	Noted.
I&AP	How can the Applicant do what he wants and just get away with it. He is destroying a food source. There used to be fish in the river. Now there are no more fish. People can no longer abstract water from the Mpushini River due to all the illegal discharging.	Noted.
I&AP	Is there a way to find out what indigenous plant species were on the property? We now won't know if there were anything on the property.	A retrospective Biodiversity Assessment (Appendix D1) was conducted. The original vegetation on the property was characterised by Eastern Valley Bushveld (**Appendix D1**). The ecological status of the vegetation type was ranked '*Least Threatened'* and is '*Nominally Protecte*d'. A Critical Biodiversity Area Irreplaceable was indicated as occurring on the site. The assessed areas were *Irreversibly Modified* in parts where buildings, roads and gardens have been constructed, and *Highly Modified* in other areas where vegetation clearing has occurred with drains, roads and/or new accommodation units under construction. 4.7 ha of indigenous vegetation was diverse with key species representative of Eastern Valley Bushveld. It is recommended by the Biodiversity Specialist that the removal of the structures and all building materials from a 0.26 ha cleared area within the CBA Area be completed, and this area be allowed to be rehabilitated with indigenous vegetation.
I&AP	Was there a previous Environmental Authorisation (EA) for this property? Who was the environmental company that conducted the EA?	We are not aware of any environmental company involved prior to Green Door Environmental's appointment.
I&AP	I am worried about the Nyalas and wildlife.	A retrospective Biodiversity Assessment (Appendix D1) has been conducted. The animal species reflected the differences in past land use, of which part was a good example of Eastern Valley Bushveld and part was croplands and areas developed for housing. Animal species sensitivity was ranked High for a large part of the site that included the CBA Irreplaceable area. In considering ecological corridors for fauna, the loss of habitat on the construction site was a *Low* impact because most of the site was previously developed or cultivated prior to the recent development.

I&AP	How does the community benefit from this development? We have been shown what the negatives are, but what are the positives of this development?	The socio-economic benefits to the community include employment opportunities, and increased GDP for the area. The operational phase of the Hotel and associated facilities is expected to be long term. Approximately 40 people have been employed during the construction phase. During the operational phase, it is anticipated that 40 permanent jobs will be created (35 staff and 5 security guards). In KwaZulu-Natal, one job supports seven dependents. The Thorntree Hotel has the potential to result in 280 dependents being supported during the operational phase.
I&AP	There are lots of unemployed locals – will they be given jobs?	The Applicant will undergo the usual job application channels. Potential applicants will be able to submit their CVs in due course. The operational phase of the Hotel and associated facilities is expected to be long term. Approximately 40 people have been employed during the construction phase. During the operational phase, it is anticipated that 40 permanent jobs will be created (35 staff and 5 security guards). In KwaZulu-Natal, one job supports seven dependents. The Thorntree Hotel has the potential to result in 280 dependents being supported during the operational phase.
I&AP	Will the gym and spa be open to the public to use?	The Applicant has confirmed that the facilities will be open to guests staying in the Hotel and to the public.
I&AP	Is there anyone checking to make sure that development does not continue until the 24G process is finalised?	It is possible that the Competent Authority will inspect the property whist the 24G process is underway. Green Door Environmental have spoken to Ms Xoli Madiba from the Compliance, Monitoring and Enforcement (CME) Department within the Department of Economic, Development, Tourism and Environmental Affairs (DEDTEA) and she has confirmed that construction activities are not allowed to continue whilst the Section 24G Application process is unresolved. Xoli has also been alerted to the fact that Applicant is continuing with construction activities. Green Door Environmental have also contacted the Applicant and instructed and informed them that construction may not continue until the Section 24G Application is resolved.

I&AP	Can you get the development stopped?	The Section 24G Application Process is a rectification process. The Department of Economic Development, tourism and Environmental Affairs (DEDTEA) are the decisionmakers - they can either refuse or approve the environmental application. The Applicant is liable for a fine.
I&AP	Sewage disposal is a concern. The Ashburton area is predominately shale which makes percolation difficult.	A Geotechnical Assessment (Appendix D4) and Bulk and Internal Services Report (Appendix D3) have been conducted. It has been confirmed that septic tanks and soakaways are not feasible for the development, as the percolation tests failed. Conservancy tanks are being proposed. Refer to Appendix D3 for the Civil Services Layout plan.
I&AP	The Google Earth imagery you have presented is outdated. Please provide us with un updated overview map which is zoomed out so that we can see more of the surrounds.	Noted. Refer to Appendix A for layout plans and maps.
I&AP	It's not fair that someone can do something illegal like this. This is not justice and is unfair. They have more than enough money to pay a fine. It is shocking that this carries on.	The Section 24G Application Process is a rectification process. The Department of Economic Development, Tourism and Environmental Affairs (DEDTEA) are the decisionmakers - they can either refuse or approve the environmental application. The Applicant is liable for a fine.
I&AP	We have had no notification of a Planning Process.	Noted, a Planning Process is currently underway. Green Door Environmental has been appointed to undertake the 24G Environmental Authorisation Process and are not involved in the town planning process. The Applicant has appointed a town planner for the rezoning application process. It is proposed that the property will be rezoned to Tourism 1.
I&AP	To assess anything retrospectively is pointless, as it has already been destroyed.	Noted, this is the opinion of the I&AP. However, in terms of the National Environmental Management Act (NEMA) (Act 107 of 1998), the process to conduct is a Section 24G Application Process. The Competent Authority (The Department of Economic Development, Tourism and Environmental Affairs) can either approve or decline the application as they are the decision makers.
I&AP	What happens to the fine money? How is the money spent? We want to know that this money is used to benefit the local community.	The S24G administrative fine that will be paid by the Applicant will be used to redress environmental issues. The funds are also used to fund the Compliance, Monitoring and Enforcement (CME) Unit within the Department of Economic Development, Tourism and Environmental Affairs (DEDTEA) to execute compliance and enforcement duties such

		as conducting inspections to ascertain whether or not the regulated community is complying with legislative provisions.
I&AP	Edith mentioned that an application was put forward in 2016 and was withdrawn due to objections. What were these objections?	Green Door Environmental is not aware of any previous applications. Green Door Environmental was appointed as the Independent Environmental Assessment Practitioner in November 2022.

6.4.1 Summary of Issues Raised During the Public Participation Process

The main issues raised during the Public Participation Process include:

- The description of the Bed and Breakfast does not correctly reflect what is proposed on site with 96 people being able to stay overnight.
- Concerns regarding water, electricity, sewage supply and refuse disposal.
- Concerns regarding traffic.
- Concerns about fire hazards, especially pertaining to the solar panels installed on a thatch roof.
- Infringement of the building line and boundary wall.
- Pollution of the stream and Mpushini River.
- Biodiversity constraints on site.
- Noise related impacts.
- Lack of building and planning approval, as well as the zoning not being correct for what is occurring on site.

6.5 Circulation of the Draft Section 24G Report

Copies of the Draft Section 24G Report have been circulated to the following I&APs for review and comment:

- Syathokoza Hlophe – Department of Economic Development, Tourism and Environmental Affairs;
- Bongiwe Thabede – Department of Agriculture and Rural Development;
- Thabisile Xulu – Department Forestry, Fisheries and Environment;
- Siyabonga Buthelezi – Department of Water and Sanitation;
- Chris Du Plessis – Department of Transport;
- Ashantia Nerissa Pillay – Ezemvelo KZN Wildlife;
- Brian Akkiah – Eskom;
- Bernadet Pawandiwa – KwaZulu-Natal Amafa and Research Institute;
- Mandisa Khomo – uMgungundlovu District Municipality;
- Edith Elliot – Msunduzi Ward 37 Ward Councillor; and
- Melusi Maphumulo – Msunduzi Local Municipality.

All I&APs have been notified of the availability of the Draft Section 24G Report, and their opportunity to provide comment. I&APs have been given 30 days to provide comment on this Report. Comments received following circulation of the Draft Section 24G Report will be included in the Final Section 24G Report which will be submitted to the DEDTEA for decision.

Electronic copies of the Draft Section 24G Report are available on request.

7 IMPACTS ON THE SOCIAL AND ECONOMIC ENVIRONMENTS

7.1 Local Economy and Employment Opportunities / Need and Desirability

Description

The establishment of the Thorntree Hotel will provide socio-economic benefits through job creation, service provision and skills development. It will also attract investment to the area. This is in line with the uMgungundlovu District Municipality's IDP and SDF which aims to create an enabling environment and sustainable development for the district.

The Applicant, Movito (Pty) Ltd, identified the need for Hotel accommodation with associated facilities to be established in one convenient location. Having a Hotel with amenities such as a restaurant, salon, health studio, laundry, gym, spa and conference centre is a major draw factor for Hotel guests, as well as members of the public. This allows the Applicant to provide, and meet the demand for team building events, meetings, getaways, retreats, and conferences, as well as having convenient accommodation for private individuals. Having all these amenities on the same property, allows for convenience and safety.

The Hotel will have a positive impact on the local economy by contributing to economic growth and development and has a greater socio-economic benefit compared to if the Hotel did not exist.

The operational phase of the Hotel and associated facilities is expected to be long term. Approximately 40 people were employed during the construction phase. During the operational phase, it is anticipated that 40 permanent jobs will be sustained (35 staff and 5 security guards). In KwaZulu-Natal, one job supports seven dependents. The Thorntree Hotel has the potential to result in 280 dependents being supported during the operational phase. A total of 560 dependents were/will be supported during both the construction and operational phase.

The Thorntree Hotel is optimally located in Ashburton near the N3 highway, Pietermaritzburg, and Oribi Airport. This allows for easy access for people travelling to and from Gauteng and the surrounding areas.

The Msunduzi Integrated Development Plan (IDP) lists the following in terms of sustainable economic growth:

- Human resource development and management;
- Sustainable socio-economic development;
- Promote human settlements and infrastructure development;
- Financially sound and sustainable municipality;
- Good corporate governance; and
- Spatial planning and environmental sustainability.

Implication / Risk / Impact

- During the construction phase, the project contributed positively to the local economy and the social environment through spending of capital at local businesses.
- Several temporary employment opportunities were generated during the planning phase.
- Approximately 40 temporary employment opportunities were also generated during the construction phase, which included contractors and labour (skilled, semi-skilled and unskilled labour).
- The operational phase of this development is expected to be long term. The economic contributions through job creation and local economic development are especially significant given the need for economic growth and employment opportunities in the area.
- There will be opportunities to continuously train and develop employees employed at the Hotel and associated amenities.

Mitigation / Recommendations

- The use of local contractors, suppliers and service providers was undertaken during the construction phase and will continue to be undertaken during the operational lifetime of the project.
- Local businesses and unemployed people in the immediate area were considered first before labour and services from further afield were employed.
- Where possible, local businesses and unemployed people in the immediate area must be considered first, before employing labour and services from further afield during the operational phase.

7.2 Planning Initiatives

7.2.1 National Development Plan

The National Development Plan (NDP) offers a long-term perspective on development in South Africa. It defines a desired destination and identifies the role different sectors of society need to play in order to reach that destination by 2030.

The NDP aims to eliminate poverty and reduce inequality in South Africa, by drawing on the energies of its people, growing an inclusive economy, enhancing the capacity of the state, and promoting leadership and partnerships throughout society.

Although there has been significant progress, 25 years into democracy, South Africa remains a highly unequal society where too many people live in poverty and too few people work. The quality of school education for black learners is poor. The apartheid spatial divide continues to dominate the landscape. A large proportion of young people feel that the odds are stacked against them. These immense challenges can only be addressed through a step change in the country's performance. To accelerate progress, deepen democracy and build a more inclusive society, South Africa must translate political emancipation into economic wellbeing for all.

7.2.2 Provincial Growth and Development Strategy

Inequalities exist within the current South African economy, and there is a legacy of inequitable spatial development and associated economic development and potential. This has had a negative impact on public sector investment. This is evident in the unbalanced economic and social costs for poor communities in locations far from employment and other economic opportunities. The Provincial Growth and Development Strategy (PGDS) is a vehicle to address the legacies of the apartheid system's long-term impacts to the economy and to promote sustainable development and ensure the eradication of poverty and unemployment through the creation of additional employment opportunities and the rectification of past inequitable spatial development.

The government has a mandate to restructure the process of development and service delivery in KwaZulu-Natal. This is to be achieved through the three spheres of government, the various government sectors, and the different strategic frameworks. The key challenges it faces, in the achievement of this mandate, is to effectively align and harmonise these structures towards this end; and to harness and align fiscal, financial, and human resources at its disposal towards eradicating poverty, creating employment, and laying the foundations for accelerated economic growth.

The PGDS offers a tool through which provincial government can direct and articulate its strategy and similarly for local government to reflect the necessary human, financial and fiscal support it needs to achieve these outcomes. It facilitates proper coordination between different spheres of government and aims to prevent provincial departments from acting out of concert with local municipalities. It enables intergovernmental alignment and guides activities of various role players and agencies (provincial sector departments, parastatals, district, and local municipalities). Thus, the PGDS aims to enhance service delivery.

It is a framework for public and private sector investment, indicating areas of opportunities and development priorities. It addresses key issues of implementation blockages whilst providing strategic direction. The PGDS implies a developmental approach to government. This implies a pro-active and facilitative approach to development and not one based on formulating and applying regulations and restrictions. The PGDS on the one hand involves preparing policies, strategies, and guidelines and on the other hand, it involves preparing mechanisms to align and facilitate the implementation, monitoring and evaluation of key growth and development priorities.

7.2.3 uMgungundlovu District Municipality IDP Review (2022 / 2023) and SDF (2014)

The uMgungundlovu District Municipality IDP undertook a comprehensive review and analysis of the district municipality, specifically highlighting the socio-economic and infrastructural backlogs, together with the developmental challenges. As a result, the district municipality is characterised by high levels of poverty, based on both income inequality and low levels of development.

In order to address the challenges, the district municipality is committed to paying more attention to the following:

- Inclusive economic growth;
- Human resource development;
- Human and community development;
- Strategic infrastructure;
- Environmental sustainability;
- Governance and policy; and
- Spatial equity.

7.2.4 Alignment with Local Municipal Goals and Objectives

The Msunduzi Municipal Spatial Development Framework (SDF) identifies Ashburton as an urban centre located alongside a primary corridor. During the construction phase, the project has resulted in the generation of temporary employment opportunities, which in turn resulted in skilled development, income generation and improved quality of life. As a result, this is beneficial in terms of alleviating poverty. During the operational phase, the Hotel will result in the long-term resilience and sustainability of Movito (Pty) Ltd and the Thorntree Hotel. This has positive impacts on the job security of the labour that will be employed at the Hotel, as well as contribute to the income generation for the municipality. Therefore, the creation of employment opportunities and economic growth align with the Municipal IDP and SDF.

Implication / Risk / Impact

- None.

Mitigation / Recommendations

- The development complies with all the above Planning Initiatives, most notably the generation of employment opportunities, which in turn results in skills development and income generation. This is important for a strong, local economy.
- In KwaZulu-Natal one job supports seven dependents. Approximately 40 people will be employed by the Applicant during the operational phase, which has the potential to result in a total of 280 dependents being negatively impacted should the Hotel and associated infrastructure not be authorised.

7.3 Cultural, Historical and Archaeological Resources

Description

A Heritage Impact Assessment (HIA) and Desktop Palaeontological Impact Assessment (PIA) was compiled for the project (refer to **Appendix D2**).

The site footprint is located within an area where the underlying geology is given a low (green) palaeo-sensitivity rating on the SAHRIS map and these deposits could contain some palaeontological material. Rocks of the Karoo Basin are rich repositories for palaeontological material. The fossiliferous geology in the area of the proposed development consists of Late Carboniferous and early Permian deposits of the Dwyka Group. Construction was ongoing whilst the specialist was on site. Several slabs of rock were manually split open in search of possible fossil material but nothing was observed. Bedrock had been removed and was inspected for any potential fossil material but nothing was recorded. Only two stone tools were found during the ground survey, but due to the highly disturbed nature of the site they were on the surface and out of context. The one simply comprised of a flake, whereas the other consisted of a curved stone blade which showed evidence of edge utilisation.

In spite of several exposures of shale being examined at various points across the site for the presence of fossils, no palaeontological material was observed during the ground survey. In addition, no graves, historical buildings or archaeological sites were recorded on the property.

Implication / Risk / Impact

- Large portions of the site have already been excavated during construction activities, so as a result there were many ditches where bedrock had been unearthed and the upper soil profile had been exposed.
- These disturbed areas were searched for any evidence of heritage-related material, but nothing significant was observed.
- Only two stone tools were recorded which were out of context and lying on the surface, one of which was a flake and the other a blade.
- Palaeontological material which has previously been discovered in Dwyka bedrock predominantly comprises of plant fossils, so this rock type has a low probability of containing significant fossil material.
- No archaeological sites, fossils, graves or historical buildings were observed on site.

Mitigation / Recommendations

- If any palaeontological or any other heritage-related material were to be unearthed during future construction activities, developers and/or landowners are reminded that according to the National Heritage Resources Act 1999 (Act No. 25) and KwaZulu-Natal Heritage Act 2008 (Act No. 4), work should immediately cease and the **Chance Find Protocol** must be followed.
- It is highly unlikely that any heritage resources or sites were impacted upon as a result of the unauthorised establishment of the Thorntree Hotel.
- If any objects are identified, the KwaZulu-Natal Amafa and Research Institute must be contacted immediately and all development must be halted until further notice. Amafa can be contacted on 033 – 394 6543.
- No mitigation or further studies are required.

7.4 Land Use and Aesthetics

Description

The Thorntree Hotel is located approximately 10 km south-east from Pietermaritzburg and is located in an area zoned “Equestrian Residential 1” and is surrounded by residential dwellings. The property is located on Thorntree Road in Ashburton within the Msunduzi Local and uMgungundlovu District Municipality, at GPS coordinates: 29°40’ 25.64” S 30° 27’ 19.53” E. The combined extent of the four properties is approximately 6.36 ha and the proposed development area is 2.91 ha.

Implication / Risk / Impact

- The unlawful activities are not in keeping with the surrounding agricultural setting and have impacted on and altered the sense of place of the area.
- The property is within 5 km of the Mpushini Protected Area.
- The unlawful activities have had a visual impact on the surrounding land use and aesthetics.

Mitigation / Recommendations

- The planting of alien invasive vegetation within the property must be prohibited.
- The building regulations and plans must be respected.
- Removal of alien invasive vegetation, and rehabilitation and revegetation of bare or disturbed areas has taken place and must be ongoing during the operational lifetime of the project.
- The storm water management plan must be implemented.

7.5 Traffic, Roads, and Access

Description

A Traffic Impact Assessment (TIA) was conducted for the site (refer to **Appendix D6**). It was observed from the traffic counts that very low volumes of public transport vehicles travel on the surrounding road network during the day. To access the Thorntree Hotel, travel on the N3 towards Durban. Take Exit 69 towards Ashburton. Turn left onto Pope Ellis Drive. Turn left onto the R103. Turn right onto Thorntree Road. The Thorntree Hotel is located on the left.

Implication / Risk / Impact:

- Based on the findings of the TIA, the development will generate less than 1 000 trips in the peak hour, therefore the development must be assessed for a 5-year design horizon (2027).
- The area in the vicinity of the proposed development is considered to be a low growth area from a traffic perspective. As such, a 2 % per annum growth rate was considered.
- There are no other known approved developments in the area nor developments that are imminent in the near future that are likely to result in a substantial increase in the traffic demand within the primary study area that could influence the conclusions and recommendations of the TIA.
- All movements at the Thorntree Road and P1-5 (R103) intersection will operate at a Level of Service (LoS) A or B during the weekday AM and PM peak hours.
- The longest delay will be 10.1 seconds at the Thorntree Road right-turn movement during the PM peak hour.
- The development will have a negligible impact on the surrounding road network. All movements at the intersections analysed will operate at acceptable levels of service.

Mitigation / Recommendations:

- No road safety concerns were observed during the site visit and traffic count period.
- No road network capacity improvements will be required for the 5-year horizon to handle combined 2027 forecasted and development generated traffic volumes.
- The development is expected to generate very low volumes of additional pedestrian and public transport traffic and thus no improvements to the existing road network will be required.

7.6 Construction Activities, Noise and Dust

Description:

During the construction phase, construction vehicles and equipment were used onsite, and continue to remain onsite until project completion. There is potential for the construction phase to have resulted in the generation of noise and dust nuisances.

Implication / Risk / Impact:

- Completing the construction phase will generate noise and dust from the use of construction machinery and increased traffic (construction vehicles) and dust.
- This impact, however, is only a temporary impact, ending with the completion of the construction phase.
- Despite the anticipated generation of noise, it is unlikely that the production of noise and dust from construction activities as well as noise during the operational phase will have a significantly negative impact upon neighbouring landowners as there are no neighbouring residencies in

close proximity to the site. The Applicant must comply with the Municipal by-laws of the area in terms of noise restrictions for the area.

Mitigation / Recommendations:

- It is recommended that activities of construction vehicles, building contractors and labourers should be limited to working hours between 7.30 am and 5 pm during weekdays. Furthermore, construction on weekends and public holidays should not be permitted.
- Machinery and equipment must be maintained and regularly serviced to ensure that unnecessary noise is prevented. Workers on site must not create unnecessary noise such as hooting or shouting.
- Dust from the construction site must be managed in an efficient and environmentally sensitive manner (e.g. dampening, stockpile covered if not used for more than 3 weeks).
- To minimise noise during the operational phase, the development is to be operated in a manner that does not result in any negative impacts to the adjacent residents, i.e. excess noise, hooting, loud music at the facility is to be prohibited. The Applicant must comply with the Municipal by-laws of the area in terms of noise restrictions for the area.

7.7 Safety and Security

Description:

The unlawful construction activities were unlikely to have resulted in any security related impacts to the Thorntree Hotel and surrounding neighbours or landowners.

Implication / Risk / Impact:

- Access onto and off the property is controlled during the construction phase and will continue to be controlled during the operational lifetime of the project.

Mitigation / Recommendations:

- The use of local contractors, suppliers and service providers was undertaken during the construction phase and must continue to be undertaken during the remainder of the construction phase and operational lifetime of the project.
- Local businesses and unemployed people in the immediate area were considered first before labour and services from further afield were employed.
- Access onto and off the property is controlled during the construction phase and will continue to be controlled during the operational lifetime of the project. The operational phase of the development will see five security guards being employed.
- We do not have any reports that encompass the electrical aspect of the solar panels being installed on the thatch roofs. Green Door Environmental has liaised with various solar installation companies and The South African Photovoltaic Industry Association (SAPVIA) and VALSA Trading (Pty) Ltd who provide solar mounting system solutions; all of which have stated that installing solar panels on a thatch roof is a fire and safety hazard issue and are unaware of this being done before. Therefore, it is not recommended that solar panels be installed on a thatch roof. Additionally, there are no installation certificates for the solar panels. If the Competent Authority (DEDTEA) requests that the solar panels be removed, then this will be included as a condition in the Environmental Authorisation.

8 IMPACTS ON THE BIOPHYSICAL ENVIRONMENT

8.1 Topography

Description:

The study site comprises a gently sloping topography. The property slopes slightly towards the south easterly end at an average grade of 6.8 %, but moderates towards the southern end where gradients are gentle.

Implication / Risk / Impact:

- There is potential for vegetation clearance, stockpiling of material and construction activities to have resulted in soil erosion and sedimentation of water resources on the property.

Mitigation / Recommendations:

- The Storm Water Management Plan is included in the Engineering Report (**Appendix D3**) must be implemented and is designed to have minimal impact on the surrounding properties and nearby natural storm water drainage stream, through the careful implementation of sustainable drainage systems (SuDS) and storm water management systems.
- The collection of surface runoff from roofs, roads and parking areas will be collected via appropriately sized pipelines, manholes, catch pits, concrete lined v-drains and directed to the existing stream.
- The pipeline that will flow into the stream must receive energy dissipation and scour protection to prevent scouring of the existing riverbanks.

8.2 Climate

Description:

The site receives a mean annual rainfall between 700 mm – 800 mm. The mean annual temperature of the site is 18 - 19°C. The site can be described as sloping slightly towards the south easterly end at an average grade of 6.8 %, but moderates towards the southern end where gradients are gentle.

Implication / Risk / Impact:

- There was potential for bare or disturbed areas, and stockpiled soil to have been wind-blown, and thus generating dust nuisances.
- There was potential for high intensity rainfall to have resulted in severe soil erosion and sedimentation of water resources.

Mitigation / Recommendations:

- Appropriate measures must be implemented to minimise the area of soil disturbance and the potential for the mobilisation of bare or disturbed areas.
- Removal of alien invasive vegetation, and rehabilitation and revegetation of bare or disturbed areas must take place and must be ongoing during the operational lifetime of the project.
- Areas of active soil erosion must be controlled immediately and be continually controlled during the operational lifetime of the project.

8.3 Geology and Soils

Description:

A Geotechnical Investigation was undertaken for the property (refer to **Appendix D4**). The site is considered stable for the proposed development. No signs of potentially unstable slopes, such as tension cracks, deformed land features, isolated shallow emissions of groundwater or unfavourably dipping bedding planes or joints, which may give rise to general ground instability.

The following tests were conducted on site (refer to **Figure 4** below):

- Six Percolation Tests (PT)
- Six Dynamic Cone Penetrometer (DPL) tests

Figure 4: Location of the Percolation Tests and Dynamic Cone Penetrometer Tests (Source: Gondwana GeoSolutions).

The geology of the site consists of bedrock that is very shallow, on average 0.6 m in the range of zero to 1.8 m below existing ground level. It is overlain by a mantle of soils comprising dark greyish brown clayey sands and very thinly developed residual soils consisting of yellowish-brown silty sand.

The area within which the site falls is classified as a Minor Aquifer within a broader area of moderate yield potential of variable water quality and is not considered to be part of an important groundwater supply aquifer on which this area is dependent on for general water supply. The Karoo rocks on this site are associated with very low permeability, i.e. the tillite in which groundwater flow is largely via fractures and other discontinuities. Storage capacity is limited. In general, the Karoo rocks form low to moderately productive aquifers, with typical borehole yields 1 to 3 l/s. Most groundwater aquifers in the Karoo Basin have Total Dissolved Solids (TDS) values between 450 and 1 000 mg/l, with the highest values in the west and south of the basin.

No groundwater was observed in any of the percolation test pits which were excavated to 0.90 m depth on average. The percolation tests indicate that the soils beneath the site are not suitable for the use of conventional septic tank and soakaway systems (refer to **Table 9** below for the percolation test results). This is because of the generally shallow bedrock beneath the site area. Therefore, due to no municipality water-borne sewage system available in the area, the following alternatives should be evaluated:

- Conservancy tank.
- Patented package plant.
- Septic-soakaway system with specially designed evapo-transpirative bed.

The septic-soakaway system with specially designed evapo-transpirative bed will be most economical and of relatively low maintenance. However, it must be designed by an experienced civil engineer. However, the Applicant wishes to make use of conservancy tanks as the preferred option.

Table 9: Summary of Percolation Test Results (Gondwana Geo Solutions).

Time (min)	PT1	PT2	PT3	PT4	PT5	PT6
0	300	300	300	300	300	Could not be done – very shallow rock
5	297	298	298	297	295	
10	295	296	298	295	287	
15	293	294	297	293	278	
20	292	293	297	291	274	
25	290	292	297	289	270	
30	288	291	296	288	268	
35	287	290	296	287	266	
Depth (m)	0.6 - 0.9	0.6 - 0.9	0.6 - 0.9	0.6 - 0.9	0.6 - 0.9	0.6 - 0.9
Percolation Rate (mm/hr)	26	20	8	13	76	NA
Result	Fail				Pass	Fail
Permissible Application Rate of Effluent to Soakpit Wall area (l/m^2/day)	Not Permitted				50	Not Permitted

Implication / Risk / Impact:

- During the construction phase, construction activities would have resulted in soil disturbance and compaction of soils.
- There was potential for bare or disturbed areas, and stockpiled soil to have been wind-blown, and thus generating dust nuisances.
- There was potential for soil disturbance and compaction during the construction phase to have resulted in the spread of alien invasive vegetation.
- The percolation tests indicate that the soils beneath the site are not suitable for the use of conventional septic tanks and soakaway systems due to the shallow bedrock beneath the site area.
- Geotechnically, the site is generally suitable for the proposed development provided the recommendations given in this report are adhered to.

Mitigation / Recommendations:

- As a traditional septic tank and soakaway is not a feasible option, a conservancy tank is the preferred method of disposing of waste.
- All kitchens or restaurants must have oil separators installed.
- All effluent must be periodically removed by a specialist maintenance company and regular inspections of the conservancy tanks and oil separators must be carried out so that these are emptied before they overflow or backup.
- The effluent must be transported and disposed of at the Darvill Wastewater Treatment Works in Pietermaritzburg.

- It is important that conservancy tanks are located downstream of the proposed structures, and they must not be less than 32 m away from a natural water source.

8.4 Surface Water and Wetland Systems

Description:

A Wetland Impact Assessment was compiled for the project (refer to **Appendix D5**).

A total of four (4) Hydro Geomorphic Units (HGM) were identified in the retrospective assessment (**Table 10**). Refer to **Figure 5** for the wetland delineation of the four HGM Units and **Figure 6** for the wetland buffer area.

- Two (2) channelled valley-bottom wetlands (**HGM Units 1 & 3**) were identified on site that has had impacts imparted by the site activities; however, not adversely impacted and remains largely *in-situ*. These are naturally occurring wetlands that have been features in the landscape prior to 1944; though, they have increased in size due to the cessation of agricultural activities and being in a valley floor, received increased source point stormwater discharges in the developing urban landscape.
- Two (2) depression wetlands (**HGM Units 2 & 4**) were identified on site and were impacted by the site activities. **HGM Units 2** and **4** have been established in-stream of **HGM Unit 1** for the purposes perceived for water storage (i.e., in-stream dams) for livestock watering and agricultural irrigation.

Table 10: Hydrogeomorphic Units (HGM) Identified on Site (Kinvig & Associates).

HGM Unit	Hydrogeomorphic Type	Natural / Artificial	Area (ha)
1	Channeled Valley-Bottom	Natural	0.705
2	Depression (In-stream Dam)	Artificial	0.023
3	Channeled Valley-Bottom	Natural	0.27
4	Depression (In-stream Dam)	Artificial	0.021

It should be noted that **HGM Units 1 – 4**, prior to anthropogenic impacts (agricultural cultivation, clearing, livestock, development), were once one (1) HGM Unit situated along the valley floor area of the site. This valley floor area is the recipient of directed stormwater from the upper catchment area and due to the gentle to level slope of the valley floor, a channeled valley-bottom wetland would be dominant. Consequently, following past and present disturbances, the dominant channeled valley-bottom wetland has been segmented into a series of four (4) HGM Units.

HGM Unit 1, a channeled valley-bottom wetland, is the larger and more prominent wetland on site that has had two (2) dams (**HGM Units 2 & 4**) constructed that has resulted in some change to the wetlands presence. **HGM Unit 1** remains largely intact; however, the dams, vegetation clearing, boundary walls / fences and construction of elevated wooden cabins has resulted in the wetlands integrity to decline.

HGM Unit 2, a depression wetland, is an exceedingly small artificial system (in-stream dam) that appears to have been potentially established *circa* 1967. Currently the dam wall and spillway has been altered for the purposes for construction of elevated wooden cabins and potentially impacted by the April 2022 floods.

HGM Unit 3, a channeled valley-bottom wetland, abuts the R103 roadway where flows are confined and directed via culvert to a tributary of the *Mpushini* River. The wetland has, overtime, increased in size due to stormwater flows from the R103 being directed to the wetland and the cessation of cultivated

fields. Currently, the wetland is intersected by the establishment of a boundary wall and security fence, elevated wooden cabins and septic tank soak-away.

HGM Unit 4, a depression wetland, is an exceedingly small artificial system (in-stream dam) that appears to have been potentially established *circa* 1998. The dam had established following the insertion of a pathway and security fence line. Currently, the dam remains in-situ; however, drains and re-establishment of the pathway has altered the dam's integrity to a limited degree.

HGM Units 1 – 4 have been assessed to have been impacted by the site activities. It should be noted that impacts are limited and can be reversed following the Rehabilitation Plan. Should activities persist without mitigation and preventive measures being implemented, the cumulative impact could result in a more serious impact or include additional **HGM Units** being impacted. A summary of the present hydrological, geomorphic and vegetation states and associated impacts (**Table 11**).

Table 11: Summary of Impacts of HGM Units (Kinvig & Associates).

HGM Unit	HGM	Impacts on Hydrology	Impacts on Geomorphology	Impacts on Vegetation
1	**Channeled Valley-Bottom**	• Channel incisement and increase in canalisation. • Drainage activities. • Flow incisions. • Decrease in wetland saturation (zonation). • Path intersections. • Deposition of sediment on wetland soils. • Increased hydrological flow (stormwater) • Confinement of flows.	• General disturbance, crossings. • Alteration of erosion and deposition regime. • Access paths (Hardening and source of sediment) • Canalisation (increased erosion in the channel)	• Decrease in ecological complexity. • Transformation and degradation of vegetation. • Abundances of invasive alien plants. • Fragmentation.
2	**Depression**	• Flow incisions. • Decrease in wetland saturation (zonation). • Wall and spillway alterations. • Deposition of sediment on wetland soils.	• General disturbance, crossings. • Alteration of erosion and deposition regime. • Roads (hardening and source of sediment).	• Decrease in ecological complexity. • Transformation and degradation of vegetation. • Abundances of invasive alien plants. • Fragmentation.
3	**Channelled valley bottom**	• Channel incisement and increase in canalisation. • Channel incisement. • Path intersections. • Deposition of sediment on wetland soils. • Increased hydrological flow (stormwater). • Point source inputs. • Confinement of flows.	• General disturbance, crossings. • Alteration of erosion and deposition regime. • Access paths (Hardening and source of sediment) • Canalisation (increased erosion in the channel)	• Decrease in ecological complexity. • Transformation and degradation of vegetation. • Abundances of invasive alien plants.

4	**Depression**	• Decrease in wetland saturation (zonation). • Path impacts. • Drainage. • Deposition of sediment on wetland soils.	• General disturbance, excavations. • Alteration of erosion and deposition regime. • Paths (Hardening and source of sediment)	• Abundances of invasive alien plants. • Degradation of vegetation.

The site can be divided into five (5) impacts zones or zones of activity that have contributed to impacting **HGM Units 1 – 4**. These five impacts zones are inclusive of the following:

- *Construction of Elevated Wooden Cabins:* Clearing of wetland vegetation and impact to wetland habitat by constructing four (4) elevated wooden cabins and service infrastructure (sewage, potable water, electricity). This results in impacting **HGM Units 1** – **3**.
- *Access Pathway Establishments:* Permanent and temporary access pathways through wetlands have been established to construct the cabins, installation of service infrastructure, stormwater infrastructure, security fence lines and boundary walls. This results in impacting **HGM Units 1** – **4**.
- *Boundary Walls and Security Fence Lines*: Replacement / Removal of old fence lines and installation of security fences or boundary walls. This results in impacting **HGM Units 1**, **3** and **4**.
- *Dam Wall and Spillway Modifications*: Modifications to the dams on site has resulted in increased erosion, channel incisement and deposition of sediment downstream. This results in impacting **HGM Units 1 – 4**.
- *Septic Tanks and Soakaways*: Newly installed septic tanks and soakaways, inclusive of sewage pipe network, may result in poor quality seepages (leaks, poorly positioned soakaways) into **HGM Units 1 – 3**.

The Present Ecological Status (PES) of the identified **HGM Units 1 – 4** is reflected below (**Table 12**). The land use of the site is currently centred around accommodation and recreational activities. The land use has impacted upon the integrity of the wetlands, specifically with regards to the hydrology and vegetation of the wetlands, which has also resulted in a commensurate decline in the wetlands geomorphology. The present ecological state for HGM Units 1 – 4 is found to be largely modified (Category D). This translates into a large change in ecosystem processes and a loss of natural habitat and biota has occurred.

Table 12: Present Ecological Status (PES) of the HGM Units.

HGM Unit	Hydrology		Geomorphology		Vegetation		Overall Health Score for entire HGM Unit	
	Impact Score	Category	Impact Score	Category	Impact Score	Category	Impact Score	Category
1	7	E	1.1	B	7.2	D	5.37	D (Largely modified)
2	8	F	1.8	B	4.6	D	5.26	D (Largely modified)
3	6.5	E	1.1	B	7.8	D	5.33	D (Largely modified)
4	8	F	1.3	B	4.1	D	4.97	D (Largely modified)

In terms of effectiveness, which represents the ability of the wetland to provide ecosystem services, it is evident that the wetlands were assessed and their position in the landscape having a moderate to moderately low ability, effectiveness, to provide most of the typical surface water management and water quality functions. The remaining ecosystem good and services from the wetland are still important and provide these to a limited degree (**Table 13**).

Table 13: WET Ecoservices for HGM Units 1 - 4 (Kinvig & Associates).

		HGM Unit 1		HGM Unit 2		HGM Unit 3		HGM Unit 4	
ECOSYSTEM SERVICE		Score	Importance	Score	Importance	Score	Importance	Score	Importance
REGULATING AND SUPPORTING SERVICES	Flood attenuation	0.5	Low	0.4	Very Low	1.0	Low	0.6	Low
	Stream flow regulation	2.5	Moderately High	3.2	High	3.0	High	3.0	High
	Sediment trapping	1.4	Moderately Low	1.0	Moderately Low	1.3	Moderately Low	1.1	Moderately Low
	Erosion control	1.0	Moderately Low	1.2	Moderately Low	0.8	Low	1.0	Moderately Low
	Phosphate removal	1.1	Moderately Low	0.9	Low	1.1	Moderately Low	1.2	Moderately Low
	Nitrate removal	1.3	Moderately Low	1.1	Moderately Low	0.7	Low	1.4	Moderately Low
	Toxicant removal	1.2	Moderately Low	0.9	Low	0.9	Low	1.2	Moderately Low
	Carbon storage	1.4	Moderately Low	1.7	Moderate	1.8	Moderate	1.7	Moderate
	Biodiversity maintenance	1.6	Moderate	1.6	Moderate	1.7	Moderate	1.7	Moderate
PROVISIONING SERVICES	Water supply	2.9	Moderately High	1.5	Low	0.9	Low	1.5	Moderate
	Harvestable natural resources	0.7	Low	0.7	Low	0.7	Low	1.3	Moderately Low
	Food for livestock	0.8	Low	0.4	Very Low	0.4	Very Low	0.2	Very Low
	Cultivated foods	0.7	Low	0.6	Low	0.6	Low	0.6	Low
CULTURAL SERVICES	Cultural significance	0.0	Very Low	0.0	Very Low	0.0	Very Low	0.0	Very Low
	Tourism & recreation	2.9	Moderately High	2.4	Moderately High	2.6	Moderately High	2.9	Moderately High
	Education & research	0.2	Very Low	0.2	Very Low	0.2	Very Low	0.2	Very Low

HGM Units 2 – 4 scored a **Class D** (**Low**). These wetlands are not considered to be ecologically important and sensitive at any scale. The biodiversity of these wetlands is not usually sensitive to flow and habitat modifications. Although, the wetlands do play a slight role in managing the quantity and quality of water on-site to some degree.

HGM Unit 1 scored a **Class C** (**Moderate**). This wetland is considered to be ecologically important and sensitive at a provincial or local scale. The biodiversity of this wetland is not usually sensitive to flow and habitat modifications. The wetland does play a small role in managing the quantity and quality of water on-site to some degree.

Figure 5: Retrospective Wetland Delineation Map (Source: Kinvig & Associates).

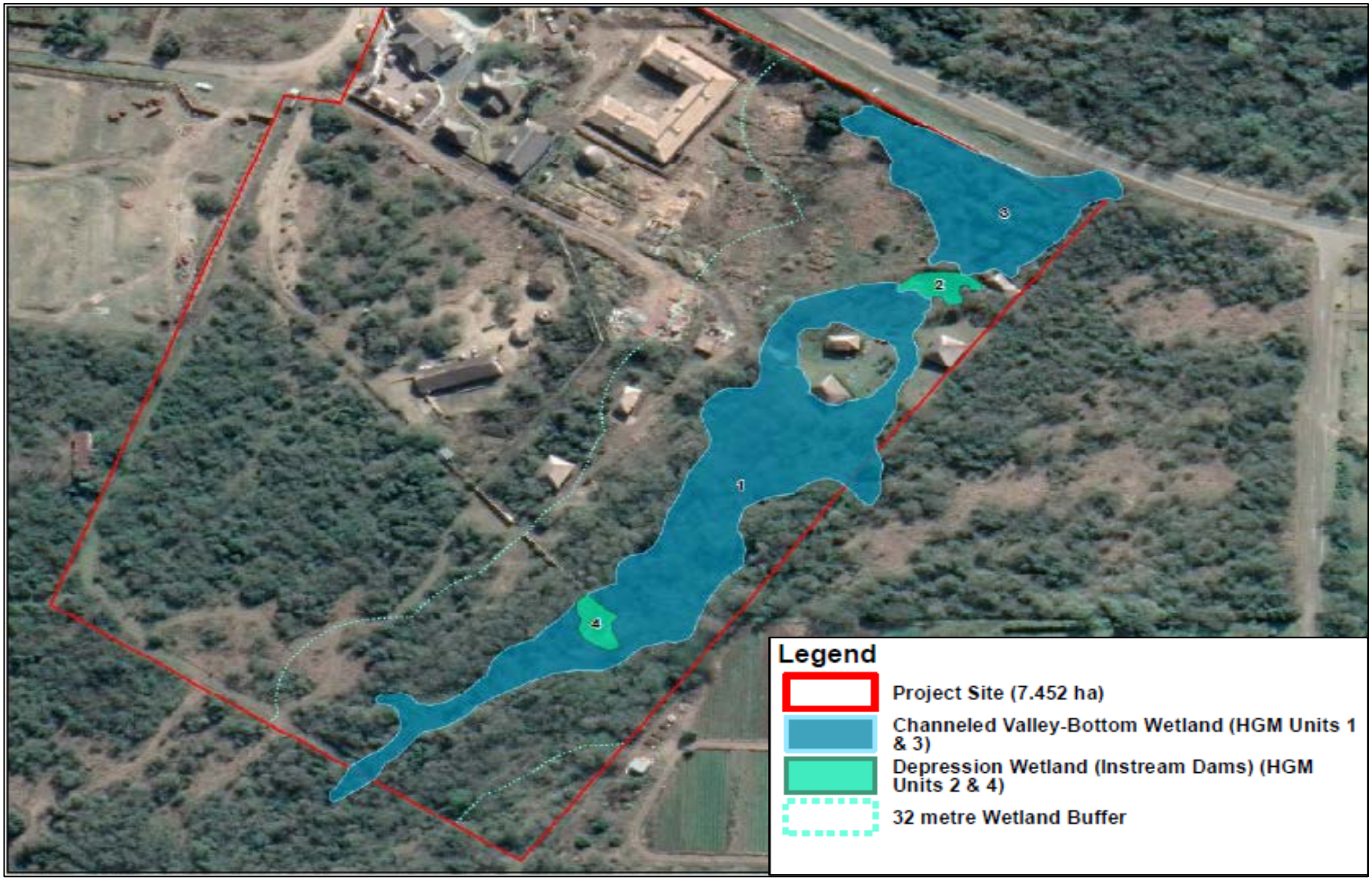

Figure 6: Map depicting 32 m wetland buffer area (Source: Kinvig & Associates).

8.4.1 Wetland Rehabilitation Plan:

The impact zones are as follows:

1. *Construction of Elevated Wooden Cabins:* Clearing of wetland vegetation and impact to wetland habitat by constructing four (4) elevated wooden cabins and service infrastructure (sewage, potable water, electricity). This results in impacting **HGM Units 1** – **3**.
2. *Access Pathway Establishments:* Permanent and temporary access pathways through wetlands have been established to construct the cabins, installation of service infrastructure, stormwater infrastructure, security fence lines and boundary walls. This results in impacting **HGM Units 1** – **4**.
3. *Boundary Walls and Security Fence Lines*: Replacement / Removal of old fence lines and installation of security fences or boundary walls. This results in impacting **HGM Units 1**, **3** and **4**.
4. *Dam Wall and Spillway Modifications*: Modifications to the dams on site has resulted in increased erosion, channel incisement and deposition of sediment downstream. This results in impacting **HGM Units 1 – 4**.
5. *Septic Tanks and Soakaways*: Newly installed septic tanks and soakaways, inclusive of sewage pipe network, may result in poor quality seepages (leaks, poorly positioned soakaways) into **HGM Units 1 – 3**.

8.4.1.1 Rehabilitation of HGM Units 1 & 4:

HGM Units **1 & 4** has the following recommendations (**Figure 7**):

1. All four (4) elevated wooden cabins are to be removed, inclusive of the storage building, as per a compiled Deconstruction Plan (includes removal of all associated service infrastructure) advised by a suitable engineer. Once the cabins have been removed, the areas are to be lightly grubbed, backfilled, top soiled and revegetated with a seed mix of *Imperata cylindrica* (25 kg / ha). Once the storage building has been removed, the area the area must be topsoiled and seeded with a seed mix that must include *Eragrostis tef, Digitaria eriantha* and *Chloris Guyana* (5 kg / ha).
2. The area of the wetland that has been historically cleared must have bush cut fascines, secured into the substrate below, placed across the two channels and connect over the terrestrial area so as to promote diffuse flow and encourage conditions for wetland habitat. Some shaping may be envisaged; however, this is to be guided by an Environmental Control Officer (ECO) who has wetland experience and can comment upon the post-removal of the cabins. The area should be reshaped similarly to a more bowl-like cross-sectional profile between the two wetland channels.
3. The security fence line intersecting the wetland (**Figure 7,** red square) must have a rock pack installed adjacent / below the fence line to stop channel incisement and hinder erosion. The rock pack must be robust enough to ensure flows are dissipated and deposition is promoted. It is important to construct a rock pack that is comprised of both smaller and larger rocks to ensure that the space between rocks is minimal, and that minimal sediment is allowed to pass through the rock pack. The rock pack must be a minimum of 6 m^2 in extent at the outfall areas of directed stormwater.
4. The access pathway leading to the wooden cabins that intersects the wetland directly must have the inserted culvert removed once the deconstruction of the wooden cabins has been completed. The area is to then be reshaped and revegetated with a mix of *Cyperus dives*, *Cyperus latifolius*, and *Typha capensis* (species identified on site where the use of the seed heads can be harvested, or species that are readily available from suppliers) individuals (seed heads or 2 litre bag size) with a planting density of one plant per 1 m^2.
5. Log fascines are to be placed into the wetland channel length ways so as to promote diffuse flow, hinder channel incisement and reduce stream velocities.
6. The pathway and fence line that intersects **HGM Unit 1** and below **HGM Unit 4** must be removed and the area must be revegetated with a mix of Cyperus dives, Cyperus latifolius, and Typha

capensis individuals (seed heads or 2 litre bag size) with a planting density of one plant per 1 m^2.

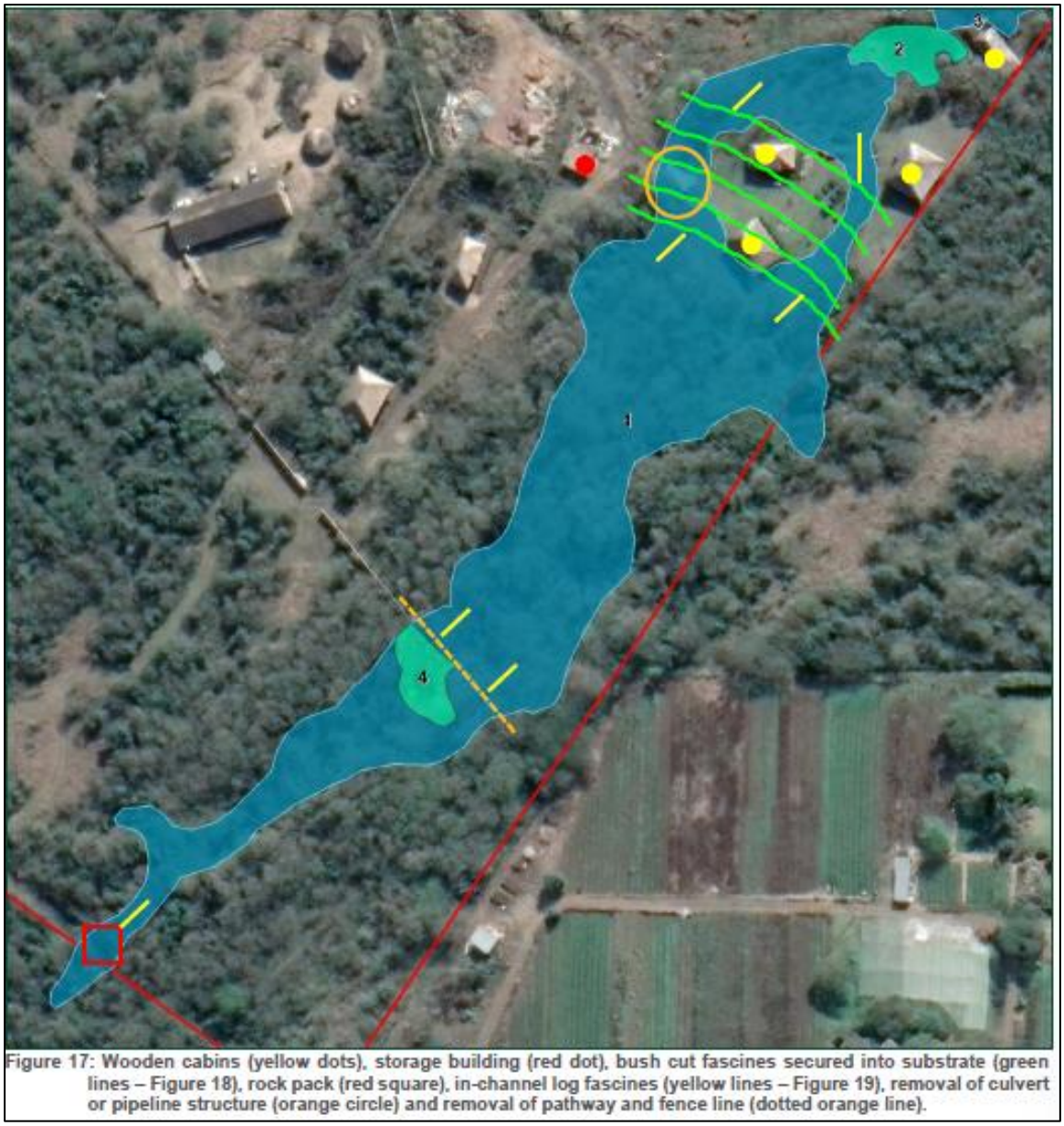

Figure 17: Wooden cabins (yellow dots), storage building (red dot), bush cut fascines secured into substrate (green lines – Figure 18), rock pack (red square), in-channel log fascines (yellow lines – Figure 19), removal of culvert or pipeline structure (orange circle) and removal of pathway and fence line (dotted orange line).

Figure 7: HGM Units 1 & 4 Rehabilitation Recommendations (Kinvig & Associates).

8.4.1.2 Rehabilitation of HGM Units 2 & 3:

HGM Unit 2 has the following recommendations (**Figure 8**):

1. The dam spillway and wall must be repaired and maintained under a Maintenance and Management Plan compiled by an engineer.
2. The dam wall embankments must have a geotextile (also referred to as an erosion control blanket) that is permeable and able to hold topsoil and seed in place. Good surface preparation is critical, as the soil surface should be relatively smooth and without projections. The blanket or mat should extend beyond the edge of the area to be covered, with the top end buried in a trench at least 10 cm deep by 20 cm wide. The mat or blanket will need to be further secured with stakes. There must be maximum soil contact to prevent erosion underneath and revegetated with a seed mix of *Imperata cylindrica* (25 kg / ha).
3. Log fascines are to be placed into the wetland channel length ways so as to promote diffuse flow, hinder incisement and reduce stream velocities.

4. The wall intersected by the wetland is to be removed and the area is to be lightly grubbed, top soiled and revegetated with a seed mix of *Imperata cylindrica* (25 kg / ha). A security fence may be established that involves the use of timber poles and game type fencing to secure the property; however, the fence uprights are to be inserted deeply enough to remain rigid as concreting the poles in wetlands soils is prohibited.
5. The septic tank and soakaway situated above **HGM Unit 3** must be removed as the *Geotechnical Report* has noted the geology of the site is not conducive the usage of septic tanks and associated soakaways.

Figure 20: Dam embankments (orange dotted line), in-channel log fascines (yellow line), removal of the wall for replacement with security fence (green circle) and removal of the septic tanks and soakaway (red dot).

Figure 8: HGM Units 2 & 3 Rehabilitation Recommendations (Kinvig & Associates).

Mitigation / Recommendations:

- A 32 m buffer has been applied to the HGM Units identified. HGM Units 1 – 4 are the only buffers that have been intersected by the site with site activities resulting in an impact onto the HGM Units.
- It is recommended that the removal of all invasive alien plants within the impacted **HGM Units 1 - 4** and the initial 10 metres of the 32 m buffer zone.
- Application of herbicides is not recommended due to the risks of contaminating aquatic environments and surface water resources downstream. Where chemical application is required, this should be done with care and under supervision.
- It is recommended that the monitoring of the rehabilitation activities be undertaken. This will ensure implementation of remediation measures to achieve a level of freshwater ecosystem integrity and functionality that is an improvement from the current situation on site.

- Monitoring of the wetland on-site provides an opportunity for assessment and reporting of any issues that may arise and corrective actions that must be implemented to protect the systems from further degradation.
- It is recommended that the photographic records be derived from fixed point photographs.
- Monitoring of the rehabilitation activities must be conducted by a suitably qualified Environmental Control Officer (ECO) with appropriate watercourse and rehabilitation knowledge.
- The ECO must confirm and monitor compliance upon rehabilitation activities commencing on a quarterly basis.
- It is recommended that the reporting be conducted in the form of brief 'Site Visit Notes' for the monthly observations and guidance. Then all said brief notes are to be collated into a final ECO report at the end of the rehabilitation period that is then submitted to the competent authorities for compliance purposes.
- The impacts imparted onto HGM Units 1 – 4 are limited and considered to be currently a low to medium impact risk.
- The rehabilitation plan mitigation and preventative measures are deemed low risk with regards to implementation.
- The rehabilitation and management recommendations should be conducted concurrently under the direction of the ECO to ensure that the deconstruction programme and rehabilitation activities are conducted in a phased manner. This eliminates any contradictory works and prevents additional impacts on HGM Units 1 – 4.
- The final ECO report (that includes all the site visit notes) should be compiled four (4) months after the completion of rehabilitation activities for a final evaluation of success.

8.5 Biodiversity

Description:

A Biodiversity Assessment (**Appendix D1**) was compiled for the development. The vegetation type of the site was identified as Eastern Valley Bushveld. The ecological status of the vegetation type was ranked *Least Threatened* and Level of Protection is *Nominally Protected*. The vegetation that was representative of Eastern Valley Bushveld contained a variety of habitats that were suitable for many species, although fencing and human disturbance would have reduced the diversity of the larger mammals e.g. Kudu and Bushbuck that occurred on the site in the past. A Critical Biodiversity Area (CBA) Irreplaceable was indicated as occurring on the site (refer to **Figure 9**). The animal species sensitivity of the site was ranked 'High' for more than 60 % of the site, this included the CBA Irreplaceable portion.

The assessed area sites were *Irreversibly Modified* in parts where buildings, roads and gardens have been constructed, and *Highly Modified* in other areas where vegetation clearing has occurred, with drains, roads and / or new accommodation units under construction. The 4.7 ha of indigenous vegetation in Area A was diverse with key species representative of Eastern Valley Bushveld. The area indicated as CBA Irreplaceable was located within area A. The National Screening Tool indicated a *Medium* Sensitivity for plant species in a small portion of the property with the remaining area identified as *Low*.

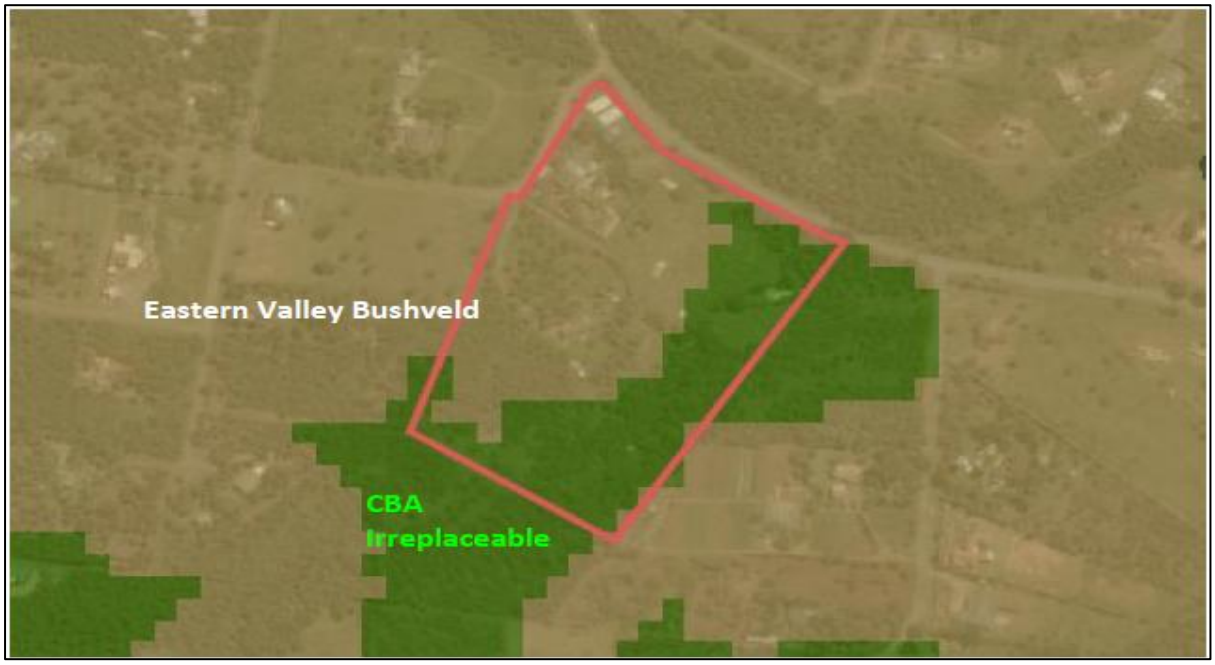

Figure 9: Critical Biodiversity Area of the Site (Peter le Roux).

The biodiversity specialist has classified the vegetation types of the site into two areas: **Area A** – 4.7 ha Indigenous Vegetation and **Area B** – 2.7 ha Housing and Agriculture (**Figure 10**), with some Hotel rooms/chalets being constructed in the Indigenous Vegetation depicted in Area A, which also forms part of the CBA Irreplaceable Area (**Figure 11**).

Figure 10: Classification of vegetation types of the site (Source: Peter le Roux).

Figure 11: Google Earth Imagery showing the change in vegetation due to construction on the Thorntree Property (Source: Peter le Roux).

Implication / Risk / Impact:

- Animal Species Sensitivity was ranked High for a large part (more than 60%) of the site that included the CBA Irreplaceable portion.
- Impacts on fauna in general were considered Low in the developed Area B because the pre-development vegetation was modified through cultivation and housing. Most species on the impacted sites on Area B would have been mobile and able to migrate to suitable vegetation in Area A.
- Four plant species of conservation concern were listed in the Screening Tool (refer to **Table 14**).
- The CBA Irreplaceable Area comprised a good example of Eastern Valley Bushveld and contained riparian vegetation, a stream and connectivity with similar land to the south. These combined features supported the CBA ranking.
- The stream traversing the property lies within the CBA component and has been channelled to fill small dams on the property.
- Unauthorised activities on the Eastern Valley Bushveld Portion included vegetation clearing and construction of five (5) chalets. These collective impacts have severed connectivity within the CBA. Another two units were constructed under the Eastern Valley Bushveld but are outside the CBA.
- Area B was recently impacted by increased densification of the accommodation and recreation facilities through earthworks, roads and construction of buildings.
- The definition of indigenous vegetation was considered to be applicable on most of the land within the 2.7 ha Area B because the open areas had been cultivated on an ongoing basis since 2010 or earlier. Some of the trees in the areas with infrastructure were planted for landscaping and some were alien species e.g. Brazilian Pepper and Syringa.
- In considering ecological corridors for fauna, the loss of habitat on the construction site was a low impact because most of the site was previously developed or cultivated prior to the recent development.

Table 14: Plants Identified in the Screening Tool Report.

Species listed	Status	Comments
Cineraria atriplicifolia	VU	Habitat may have been suitable in the past, but absence of fire has caused thicket formation and loss of ecotones.
Eugenia simii	VU	No suitable habitat (river banks).
Hermannia sandersonii	VU	May have occurred before grassland became moribund followed by woody plant encroachment.
Hydrostachys polymorpha		No suitable habitat (clear, flowing rivers).

Mitigation / Recommendations:

- The faunal assessment indicated that a ranking of *Medium* would be more appropriate for Area A and *Low* for Area B.
- The construction of accommodation units within the CBA Irreplaceable Area (and within a wetland buffer) could be mitigated by removal of the structures and all building materials from the 0.26 ha cleared area.
- Allow the regeneration of indigenous trees and shrubs, though not mowing or burning the site and ongoing control of invasive alien plants as specified in the EMPr (**Appendix E**).

9 ASSESSMENT OF ENVIRONMENTAL IMPACTS

9.1 Impact Assessment Methodology

In order to assess potential environmental issues associated with the unlawful activities, each aspect addressed in **Sections 7 and 8** have been given a qualitative rating in relation to its environmental impact (refer to **Table 15**). Each aspect has been divided into a number of different classes, each of which has been assigned various criteria.

Where relevant, the following methods have been used to predict the characteristics of identified impacts:

- Professional judgement;
- Quantitative mathematical models;
- Experiments and physical models;
- Physical or visual simulations or maps (including GIS tools);
- Case studies; and
- Past experience.

Table 15: Summary of aspects used for assessing environmental impacts.

ASPECT	CLASS	CRITERIA
NATURE OF IMPACT	Positive	The impact on the environment will be positive.
	Negative	The impact on the environment will be negative.
	Direct	The impact is caused directly by the activity and generally occurs at the same time and place of the activity.
	Indirect	The impact induces changes that may occur as a result of the activity.
	Cumulative	The impact is as a result from the incremental impact of the proposed activity on a common resource when added the impacts of other past, present or reasonably foreseeable future activities.
OCCURRENCE OF IMPACT	Construction	The impact will happen during construction.
	Operation	The impact will happen during operation.
	Decommissioning	The impact will happen during decommissioning.
	Immediate	The impact will happen immediately.
	Delayed	There will be a delay in the impact occurring.
PROBABILITY OF IMPACT OCCURRING (WITH MITIGATION)	Definitely	The impact will definitely occur, even with mitigation (100%).
	Likely	It is likely that the impact will occur (60% - 99%).
	Fair	There is a fair chance that the impact will occur (30% - 59%).
	Unlikely	It is unlikely that the impact will occur (10% - 29%).
REVERSIBILITY (WITH MITIGATION)	Possible	It is possible to reverse the impact.
	Partly	It is partly possible to reverse the impact.
	Not Possible	It is not possible to reverse the impact.
EXTENT OF IMPACT (WITH MITIGATION)	Site	The impact will be limited to the site.
	Local	The impact will affect the local area (within a radius of 40 kilometres).
	Provincial	The impact will affect areas beyond the site but within the boundaries of KwaZulu-Natal.
	National	The impact will affect areas beyond the Province but within the boundaries of South Africa.

ASPECT	CLASS	CRITERIA
DURATION (WITH MITIGATION)	Short-term	0 – 5 Years (construction phase).
	Medium-term	5 – 40 Years (construction and operation).
	Long-term	> 40 years.
	Permanent	Permanent damage to the environment.
SIGNIFICANCE OF IMPACT WITHOUT MITIGATION	Low	Small impact / disturbance.
	Medium	Moderate impact / disturbance expected.
	High	Significant impact / disturbance expected.
SIGNIFICANCE OF IMPACT POST-MITIGATION	Low	Small impact / disturbance.
	Medium	Moderate impact / disturbance expected.
	High	Significant impact / disturbance expected.

9.2 Impact Assessment

The table below lists potential impacts associated with the proposed redevelopment, and details what mitigation measures should be taken to minimise these impacts (refer to **Table 17** below).

Table 16: Assessment of Potential Impacts Associated with the Development.

DESCRIPTION OF IDENTIFIED ENVIRONMENTAL IMPACT		MITIGATION	NATURE OF IMPACT	DEGREE TO WHICH IMPACT CAN BE MITIGATED	PROBABILITY OF IMPACT OCCURRING		REVERSIBILITY OF IMPACT		EXTENT OF IMPACT		DURATION OF IMPACT		SIGNIFICANCE OF IMPACT WITHOUT MITIGATION	SIGNIFICANCE OF IMPACT WITH MITIGATION
					WITHOUT MITIGATION	WITH MITIGATION	WITHOUT MITIGATION	WITH MITIGATION	WITHOUT MITIGATION	WITH MITIGATION	WITHOUT MITIGATION	WITH MITIGATION		
LOCAL ECONOMY AND EMPLOYMENT OPPORTUNITIES	• During the construction phase, the project contributed positively to the local economy and the social environment through spending of capital at local businesses. • Several temporary employment opportunities were generated during the planning phase. • Approximately 40 temporary employment opportunities were also generated during the construction phase, which included contractors and labour (skilled, semi-skilled and unskilled labour). • The operational phase of this development is expected to be long term. The economic contributions through job creation and local economic development are especially significant given the need for economic growth and employment opportunities in the area. • There will be opportunities to continuously train and develop employees employed at the Hotel and associated amenities.	• The use of local contractors, suppliers and service providers was undertaken during the construction phase and will continue to be undertaken during the operational lifetime of the project. • Local businesses and unemployed people in the immediate area were considered first before labour and services from further afield were employed. • Where possible, local businesses and unemployed people in the immediate area must be considered first, before employing labour and services from further afield during the operational phase.	Positive	Partly	Definitely	Definitely	Partly	Partly	Local	Local	Long-term and Permanent	Long-term and Permanent	High (positive)	High (positive)
PLANNING INITIATIVES	• None.	• The development complies with all the above Planning Initiatives, most notably the generation of employment opportunities, which in turn results in skills development and income generation. This is important for a strong, local economy. • In KwaZulu-Natal one job supports seven dependents. Approximately 40 people will be employed by the Applicant during the operational phase, which has the potential to result in a total of 280 dependents being negatively impacted should the Hotel and associated infrastructure not be authorised.	Positive	Partly	Definitely	Possible	Partly	Partly	Site and Local	Site and Local	Permanent	Permanent	High (Positive)	High (Positive)

DESCRIPTION OF IDENTIFIED ENVIRONMENTAL IMPACT		MITIGATION	NATURE OF IMPACT	DEGREE TO WHICH IMPACT CAN BE MITIGATED	PROBABILITY OF IMPACT OCCURRING		REVERSIBILITY OF IMPACT		EXTENT OF IMPACT		DURATION OF IMPACT		SIGNIFICANCE OF IMPACT WITHOUT MITIGATION	SIGNIFICANCE OF IMPACT WITH MITIGATION
					WITHOUT MITIGATION	WITH MITIGATION	WITHOUT MITIGATION	WITH MITIGATION	WITHOUT MITIGATION	WITH MITIGATION	WITHOUT MITIGATION	WITH MITIGATION		
CULTURAL AND HISTORICAL AND ARCHAEOLOGICAL RESOURCES	• Large portions of the site have already been excavated during construction activities, so as a result there were many ditches where bedrock had been unearthed and the upper soil profile had been exposed. • These disturbed areas were searched for any evidence of heritage-related material, but nothing significant was observed. • Only two stone tools were recorded which were out of context and lying on the surface, one of which was a flake and the other a blade. • Palaeontological material which has previously been discovered in Dwyka bedrock predominantly comprises of plant fossils, so this rock type has a low probability of containing significant fossil material. • No archaeological sites, fossils, graves or historical buildings were observed on site.	• If any palaeontological or any other heritage-related material were to be unearthed during future construction activities, developers and/or landowners are reminded that according to the National Heritage Resources Act 1999 (Act No. 25) and KwaZulu-Natal Heritage Act 2008 (Act No. 4), work should immediately cease and the Chance Find Protocol must be followed. • It is highly unlikely that any heritage resources or sites were impacted upon as a result of the unauthorised establishment of the Thorntree Hotel. • If any objects are identified, the KwaZulu-Natal Amafa and Research Institute must be contacted immediately and all development must be halted until further notice. Amafa can be contacted on 033 – 394 6543. • No mitigation or further studies are required.	Negative, Direct	Highly Likely	Likely	Fair	Partly	Possible	Site	Site	Short-term	Short-term	Medium	Low
LAND USE AND AESTHETICS	• The unlawful activities are not keeping with the surrounding agricultural setting and have impacted on and altered the sense of place of the area. • The property is within 5 km of the Mpushini Protected Area. • The unlawful activities have had a visual impact on the surrounding land use and aesthetics.	• The planting of alien invasive vegetation within the property must be prohibited. • The building regulations and plans must be respected. • Removal of alien invasive vegetation, and rehabilitation and revegetation of bare or disturbed areas has taken place and must be ongoing during the operational lifetime of the project. • The storm water management plan must be implemented.	Negative, Direct	Partly	Definitely	Likely	Not Possible	Partly	Local and Site	Local and Site	Long-term and Permanent	Medium-term	High	Low

DESCRIPTION OF IDENTIFIED ENVIRONMENTAL IMPACT		MITIGATION	NATURE OF IMPACT	DEGREE TO WHICH IMPACT CAN BE MITIGATED	PROBABILITY OF IMPACT OCCURRING		REVERSIBILITY OF IMPACT		EXTENT OF IMPACT		DURATION OF IMPACT		SIGNIFICANCE OF IMPACT WITHOUT MITIGATION	SIGNIFICANCE OF IMPACT WITH MITIGATION
					WITHOUT MITIGATION	WITH MITIGATION	WITHOUT MITIGATION	WITH MITIGATION	WITHOUT MITIGATION	WITH MITIGATION	WITHOUT MITIGATION	WITH MITIGATION		
TRAFFIC, ROADS AND ACCESS	• Based on the findings of the TIA, the development will generate less than 1 000 trips in the peak hour, therefore the development must be assessed for a 5-year design horizon (2027). • The area in the vicinity of the proposed development is considered to be a low growth area from a traffic perspective. As such, a 2 % per annum growth rate was considered. • There are no other known approved developments in the area nor developments that are imminent in the near future that are likely to result in a substantial increase in the traffic demand within the primary study area that could influence the conclusions and recommendations of the TIA. • All movements at the Thorntree Road and P1-5 (R103) intersection will operate at a Level of Service (LoS) A or B during the weekday AM and PM peak hours. • The longest delay will be 10.1 seconds at the Thorntree Road right-turn movement during the PM peak hour. • The development will have a negligible impact on the surrounding road network. All movements at the intersections analysed will operate at acceptable levels of service.	• No road safety concerns were observed during the site visit and traffic count period. • No road network capacity improvements will be required for the 5-year horizon to handle combined 2027 forecasted and development generated traffic volumes. • The development is expected to generate very low volumes of additional pedestrian and public transport traffic and thus no improvements to the existing road network will be required.	Negative, Direct and Indirect	Likely	Fair	Fair	Partly	Possible	Site	Site	Medium-term	Medium-term	Medium	Low
CONSTRUCTION ACTIVITIES, NOISE AND DUST	• Completing the construction phase will generate noise and dust from the use of construction machinery and increased traffic (construction vehicles) and dust. • This impact, however, is only a temporary impact, ending with the completion of the construction phase. • Despite the anticipated generation of noise, it is unlikely that the production of noise and dust from construction activities as well as noise	• It is recommended that activities of construction vehicles, building contractors and labourers should be limited to working hours between 7.30 am and 5 pm during weekdays. Furthermore, construction on weekends and public holidays should not be permitted. • Machinery and equipment must be maintained and regularly serviced to ensure that unnecessary noise is prevented. Workers on	Negative, Direct	Likely	Likely	Fair	Partly	Possible	Site	Site	Short-term during construction and Medium-term during operation	Short-term	Medium	Low

DESCRIPTION OF IDENTIFIED ENVIRONMENTAL IMPACT		MITIGATION	NATURE OF IMPACT	DEGREE TO WHICH IMPACT CAN BE MITIGATED	PROBABILITY OF IMPACT OCCURRING		REVERSIBILITY OF IMPACT		EXTENT OF IMPACT		DURATION OF IMPACT		SIGNIFICANCE OF IMPACT WITHOUT MITIGATION	SIGNIFICANCE OF IMPACT WITH MITIGATION
					WITHOUT MITIGATION	WITH MITIGATION	WITHOUT MITIGATION	WITH MITIGATION	WITHOUT MITIGATION	WITH MITIGATION	WITHOUT MITIGATION	WITH MITIGATION		
	during the operational phase will have a significantly negative impact upon neighbouring landowners as there are no neighbouring residencies in close proximity to the site. The Applicant must comply with the Municipal by-laws of the area in terms of noise restrictions for the area.	site must not create unnecessary noise such as hooting or shouting. • Dust from the construction site must be managed in an efficient and environmentally sensitive manner (e.g. dampening, stockpile covered if not used for more than 3 weeks). • To minimise noise during the operational phase, the development is to be operated in a manner that does not result in any negative impacts to the adjacent residents, i.e. excess noise, hooting, loud music at the facility is to be prohibited. The Applicant must comply with the Municipal by-laws of the area in terms of noise restrictions for the area.												
SAFETY & SECURITY	• Access onto and off the property is controlled during the construction phase and will continue to be controlled during the operational lifetime of the project.	• The use of local contractors, suppliers and service providers was undertaken during the construction phase and must continue to be undertaken during the remainder of the construction phase and operational lifetime of the project. • Local businesses and unemployed people in the immediate area were considered first before labour and services from further afield were employed. • Access onto and off the property is controlled during the construction phase and will continue to be controlled during the operational lifetime of the project. The operational phase of the development will see five security guards being employed. • We do not have any reports that encompass the electrical aspect of the solar panels being installed on the thatch roofs. Green Door Environmental has liaised with various solar installation companies and The South African Photovoltaic Industry Association (SAPVIA)	Negative, Indirect	Fair	Fair	Fair	Partly	Possible	Site	Site	Medium-term	Short-term	Medium	Low

DESCRIPTION OF IDENTIFIED ENVIRONMENTAL IMPACT		MITIGATION	NATURE OF IMPACT	DEGREE TO WHICH IMPACT CAN BE MITIGATED	PROBABILITY OF IMPACT OCCURRING		REVERSIBILITY OF IMPACT		EXTENT OF IMPACT		DURATION OF IMPACT		SIGNIFICANCE OF IMPACT WITHOUT MITIGATION	SIGNIFICANCE OF IMPACT WITH MITIGATION
					WITHOUT MITIGATION	WITH MITIGATION	WITHOUT MITIGATION	WITH MITIGATION	WITHOUT MITIGATION	WITH MITIGATION	WITHOUT MITIGATION	WITH MITIGATION		
		and VALSA Trading (Pty) Ltd who provide solar mounting system solutions; all of which have stated that installing solar panels on a thatch roof is a fire and safety hazard issue and are unaware of this being done before. Therefore, it is not recommended that solar panels be installed on a thatch roof. Additionally, there are no installation certificates for the solar panels. If the Competent Authority (DEDTEA) requests that the solar panels be removed, then this will be included as a condition in the Environmental Authorisation.												
TOPOGRAPHY	• There is potential for vegetation clearance, stockpiling of material and construction activities to have resulted in soil erosion and sedimentation of water resources on the property.	• The Storm Water Management Plan is included in the Engineering Report (Appendix D3) must be implemented and is designed to have minimal impact on the surrounding properties and nearby natural storm water drainage stream, through the careful implementation of sustainable drainage systems (SuDS) and storm water management systems. • The collection of surface runoff from roofs, roads and parking areas will be collected via appropriately sized pipelines, manholes, catch pits, concrete lined v-drains and directed to the existing stream. • The pipeline that will flow into the stream must receive energy dissipation and scour protection to prevent scouring of the existing riverbanks.	Negative, Direct	Partly possible	Definitely	Likely	Not Possible	Partly	Site and local	Site	Medium term	Short term	High	Low

DESCRIPTION OF IDENTIFIED ENVIRONMENTAL IMPACT		MITIGATION	NATURE OF IMPACT	DEGREE TO WHICH IMPACT CAN BE MITIGATED	PROBABILITY OF IMPACT OCCURRING		REVERSIBILITY OF IMPACT		EXTENT OF IMPACT		DURATION OF IMPACT		SIGNIFICANCE OF IMPACT WITHOUT MITIGATION	SIGNIFICANCE OF IMPACT WITH MITIGATION
					WITHOUT MITIGATION	WITH MITIGATION	WITHOUT MITIGATION	WITH MITIGATION	WITHOUT MITIGATION	WITH MITIGATION	WITHOUT MITIGATION	WITH MITIGATION		
CLIMATE	• There was potential for bare or disturbed areas, and stockpiled soil to have been wind-blown, and thus generating dust nuisances. • There was potential for high intensity rainfall to have resulted in severe soil erosion and sedimentation of water resources.	• Appropriate measures must be implemented to minimise the area of soil disturbance and the potential for the mobilisation of bare or disturbed areas. • Removal of alien invasive vegetation, and rehabilitation and revegetation of bare or disturbed areas must take place and must be ongoing during the operational lifetime of the project. • Areas of active soil erosion must be controlled immediately and be continually controlled during the operational lifetime of the project.	Negative, Direct	Partly	Definitely	Likely	Partly	Partly	Site	Site	Short-term	Short-term	High	Low
GEOLOGY AND SOILS	• During the construction phase, construction activities would have resulted in soil disturbance and compaction of soils. • There was potential for bare or disturbed areas, and stockpiled soil to have been wind-blown, and thus generating dust nuisances. • There was potential for soil disturbance and compaction during the construction phase to have resulted in the spread of alien invasive vegetation. • The percolation tests indicate that the soils beneath the site are not suitable for the use of conventional septic tanks and soakaway systems due to the shallow bedrock beneath the site area. • Geotechnically, the site is generally suitable for the proposed development provided the recommendations given in this report are adhered to.	• As a traditional septic tank and soakaway is not a feasible option, a conservancy tank is the preferred method of disposing of waste. • All kitchens or restaurants must have oil separators installed. • All effluent must be periodically removed by a specialist maintenance company and regular inspections of the conservancy tanks and oil separators must be carried out so that these are emptied before they overflow or backup. • The effluent must be transported and disposed of at the Darvill Wastewater Treatment Works in Pietermaritzburg. • It is important that conservancy tanks are located downstream of the proposed structures, and they must not be less than 32 m away from a natural water source.	Negative, Direct	Partly	Definitely	Likely	Partly	Partly	Site	Site	Long-term	Long-term	Medium	Low

DESCRIPTION OF IDENTIFIED ENVIRONMENTAL IMPACT		MITIGATION	NATURE OF IMPACT	DEGREE TO WHICH IMPACT CAN BE MITIGATED	PROBABILITY OF IMPACT OCCURRING		REVERSIBILITY OF IMPACT		EXTENT OF IMPACT		DURATION OF IMPACT		SIGNIFICANCE OF IMPACT WITHOUT MITIGATION	SIGNIFICANCE OF IMPACT WITH MITIGATION
					WITHOUT MITIGATION	WITH MITIGATION	WITHOUT MITIGATION	WITH MITIGATION	WITHOUT MITIGATION	WITH MITIGATION	WITHOUT MITIGATION	WITH MITIGATION		
SURFACE WATER AND WETLAND SYSTEMS	• Construction of Elevated Wooden Cabins: Clearing of wetland vegetation and impact to wetland habitat by constructing four (4) elevated wooden cabins and service infrastructure (sewage, potable water, electricity). This results in impacting HGM Units 1 – 3. • Access Pathway Establishments: Permanent and temporary access pathways through wetlands have been established to construct the cabins, installation of service infrastructure, stormwater infrastructure, security fence lines and boundary walls. This results in impacting HGM Units 1 – 4. • Boundary Walls and Security Fence Lines: Replacement / Removal of old fence lines and installation of security fences or boundary walls. This results in impacting HGM Units 1, 3 and 4. • Dam Wall and Spillway Modifications: Modifications to the dams on site has resulted in increased erosion, channel incisement and deposition of sediment downstream. This results in impacting HGM Units 1 – 4. • Septic Tanks and Soakaways: Newly installed septic tanks and soakaways, inclusive of sewage pipe network, may result in poor quality seepages (leaks, poorly positioned soakaways) into HGM Units 1 – 3.	• A 32 m buffer has been applied to the HGM Units identified. HGM Units 1 – 4 are the only buffers that have been intersected by the site with site activities resulting in an impact onto the HGM Units. • It is recommended that the removal of all invasive alien plants within the impacted HGM Units 1 - 4 and the initial 10 metres of the 32 m buffer zone. • Application of herbicides is not recommended due to the risks of contaminating aquatic environments and surface water resources downstream. Where chemical application is required, this should be done with care and under supervision. • It is recommended that the monitoring of the rehabilitation activities be undertaken. This will ensure implementation of remediation measures to achieve a level of freshwater ecosystem integrity and functionality that is an improvement from the current situation on site. • Monitoring of the wetland on-site provides an opportunity for assessment and reporting of any issues that may arise and corrective actions that must be implemented to protect the systems from further degradation. • It is recommended that the photographic records be derived from fixed point photographs. • Monitoring of the rehabilitation activities must be conducted by a suitably qualified Environmental Control Officer (ECO) with appropriate watercourse and rehabilitation knowledge.	Negative, Direct	Highly Likely	Definitely	Fair	Not Possible	Possible	Site	Site	Permanent	Medium-term	High	Low

DESCRIPTION OF IDENTIFIED ENVIRONMENTAL IMPACT		MITIGATION	NATURE OF IMPACT	DEGREE TO WHICH IMPACT CAN BE MITIGATED	PROBABILITY OF IMPACT OCCURRING		REVERSIBILITY OF IMPACT		EXTENT OF IMPACT		DURATION OF IMPACT		SIGNIFICANCE OF IMPACT WITHOUT MITIGATION	SIGNIFICANCE OF IMPACT WITH MITIGATION
					WITHOUT MITIGATION	WITH MITIGATION	WITHOUT MITIGATION	WITH MITIGATION	WITHOUT MITIGATION	WITH MITIGATION	WITHOUT MITIGATION	WITH MITIGATION		
		• The ECO must confirm and monitor compliance upon rehabilitation activities commencing on a quarterly basis. • It is recommended that the reporting be conducted in the form of brief 'Site Visit Notes' for the monthly observations and guidance. Then all said brief notes are to be collated into a final ECO report at the end of the rehabilitation period that is then submitted to the competent authorities for compliance purposes. • The impacts imparted onto HGM Units 1 – 4 are limited and considered to be currently a low to medium impact risk. • The rehabilitation plan mitigation and preventative measures are deemed low risk with regards to implementation. • The rehabilitation and management recommendations should be conducted concurrently under the direction of the ECO to ensure that the deconstruction programme and rehabilitation activities are conducted in a phased manner. This eliminates any contradictory works and prevents additional impacts on HGM Units 1 – 4. • The final ECO report (that includes all the site visit notes) should be compiled four (4) months after the completion of rehabilitation activities for a final evaluation of success.											
BIODIVERSITY	• Animal Species Sensitivity was ranked High for a large part (more than 60%) of the site that included the CBA Irreplaceable portion. • Impacts on fauna in general were considered Low in the developed Area B because the pre-development vegetation was modified through cultivation and housing. Most species on the	• The faunal assessment indicated that a ranking of Medium would be more appropriate for Area A and Low for Area B. • The construction of accommodation units within the CBA Irreplaceable Area (and within a wetland buffer) could be mitigated by	Negative, Direct	Highly Likely	Definitely	Fair	Not Possible	Possible	Site	Site	Permanent	Medium-term	High	Low

DESCRIPTION OF IDENTIFIED ENVIRONMENTAL IMPACT	MITIGATION	NATURE OF IMPACT	DEGREE TO WHICH IMPACT CAN BE MITIGATED	PROBABILITY OF IMPACT OCCURRING		REVERSIBILITY OF IMPACT		EXTENT OF IMPACT		DURATION OF IMPACT		SIGNIFICANCE OF IMPACT WITHOUT MITIGATION	SIGNIFICANCE OF IMPACT WITH MITIGATION
				WITHOUT MITIGATION	WITH MITIGATION	WITHOUT MITIGATION	WITH MITIGATION	WITHOUT MITIGATION	WITH MITIGATION	WITHOUT MITIGATION	WITH MITIGATION		
impacted sites on Area B would have been mobile and able to migrate to suitable vegetation in Area A. • Four plant species of conservation concern were listed in the Screening Tool (refer to Table 14). • The CBA Irreplaceable Area comprised a good example of Eastern Valley Bushveld and contained riparian vegetation, a stream and connectivity with similar land to the south. These combined features supported the CBA ranking. • The stream traversing the property lies within the CBA component and has been channelled to fill small dams on the property. • Unauthorised activities on the Eastern Valley Bushveld Portion included vegetation clearing and construction of five (5) chalets. These collective impacts have severed connectivity within the CBA. Another two units were constructed under the Eastern Valley Bushveld but are outside the CBA. • Area B was recently impacted by increased densification of the accommodation and recreation facilities through earthworks, roads and construction of buildings. • The definition of indigenous vegetation was considered to be applicable on most of the land within the 2.7 ha Area B because the open areas had been cultivated on an ongoing basis since 2010 or earlier. Some of the trees in the areas with infrastructure were planted for landscaping and some were alien species e.g. Brazilian Pepper and Syringa. • In considering ecological corridors for fauna, the loss of habitat on the construction site was a low impact because most of the site was previously	removal of the structures and all building materials from the 0.26 ha cleared area. • Allow the regeneration of indigenous trees and shrubs, though not mowing or burning the site and ongoing control of invasive alien plants as specified in the EMPr (Appendix E).												

DESCRIPTION OF IDENTIFIED ENVIRONMENTAL IMPACT	MITIGATION	NATURE OF IMPACT	DEGREE TO WHICH IMPACT CAN BE MITIGATED	PROBABILITY OF IMPACT OCCURRING		REVERSIBILITY OF IMPACT		EXTENT OF IMPACT		DURATION OF IMPACT		SIGNIFICANCE OF IMPACT WITHOUT MITIGATION	SIGNIFICANCE OF IMPACT WITH MITIGATION
				WITHOUT MITIGATION	WITH MITIGATION	WITHOUT MITIGATION	WITH MITIGATION	WITHOUT MITIGATION	WITH MITIGATION	WITHOUT MITIGATION	WITH MITIGATION		
	developed or cultivated prior to the recent development.												

10 ENVIRONMENTAL MANAGEMENT PROGRAMME

In terms of the Regulations stated in Appendix 4 of Chapter 8 of the NEMA, an Environmental Management Programme (EMPr) has been compiled (refer to **Appendix E**), which contains guidelines for ensuring that all activities associated with the Hotel are carried out in an environmentally responsible and acceptable manner. Specific management objectives and mitigation measures have been specified for the operational lifetime of the project.

The EMPr is based on the principles of the NEMA as well as the recommendations made in the Section 24G Report. It identifies roles and responsibilities of employees onsite and will be used as a framework for environmental compliance monitoring and reporting, should the unlawful activities be authorised.

An EMPr is a legally-binding document that contains guidelines with which the Applicant must comply, and which must be strictly implemented and regularly monitored. If this is done, it is likely that the majority of the potentially adverse impacts associated with operational lifetime of the project can be minimised or prevented. An ECO must be appointed by the Applicant to ensure compliance with the EMPr during the operational lifetime of the project. Should non-compliance occur, this must be brought to the attention of the DEDTEA, who will conduct the required prosecution procedure.

Specific management objectives and mitigation measures are specified in the EMPr for the operational lifetime of the project, including the following stages:

- Construction phase;
- Operation or undertaking of the activities;
- Removal of infrastructure in line with the recommendations from the Specialists;
- Rehabilitation of the environment; and
- Closure, where relevant.

The EMPr includes *inter alia*:

- Measures to prevent further degradation;
- Measures to minimise soil erosion;
- Measures to control stormwater discharge; and
- Removal of alien vegetation.

11 RECOMMENDATIONS

11.1 Environmental Impact Statement

11.1.1 Summary of Key Findings

As part of the Section 24G Application Process, the following Specialist Studies have been undertaken:

- Biodiversity Assessment
- Heritage Impact Assessment & Desktop Palaeontological Assessment
- Bulk and Internal Services Report
- Geotechnical Assessment
- Traffic Impact Assessment

BIODIVERSITY ASSESSMENT

A Biodiversity Assessment was compiled for the project (**Appendix D1**). The vegetation type of the site was identified as Eastern Valley Bushveld. The ecological status of the vegetation type was ranked *Least Threatened* and Level of Protection is *Nominally Protected*. A Critical Biodiversity Area Irreplaceable was indicated as occurring on the site. The animal species sensitivity of the site was ranked '*High*' for more than 60 % of the site, this included the CBA Irreplaceable portion.

The assessed area was *Irreversibly Modified* in parts where buildings, roads and gardens have been constructed, and *Highly Modified* in other areas where vegetation clearing has occurred, with drains, roads and / or new accommodation units under construction. The 4.7 ha of indigenous vegetation in Area A was diverse with key species representative of Eastern Valley Bushveld. The area indicated as CBA Irreplaceable was located within area A. The CBA Irreplaceable Area comprised a good example of Eastern Valley Bushveld and contained riparian vegetation, a stream and connectivity with similar land to the south. These combined features supported the CBA ranking. The stream traversing the property lies within the CBA component and has been channelled to fill small dams on the property. Unauthorised activities on the Eastern Valley Bushveld Portion included vegetation clearing and construction of five (5) chalets. These collective impacts have severed connectivity within the CBA. Another two units were constructed under the Eastern Valley Bushveld but are outside the CBA. Area B was recently impacted by increased densification of the accommodation and recreation facilities through earthworks, roads and construction of buildings. The definition of indigenous vegetation was considered to be applicable on most of the land within the 2.7 ha Area B because the open areas had been cultivated on an ongoing basis since 2010 or earlier. In considering ecological corridors for fauna, the loss of habitat on the construction site was a Low Impact because most of the site was previously developed or cultivated prior to the recent development.

ENGINEERING ASSESSMENT

An Engineering Assessment was compiled for the project (**Appendix D3**).

Roads

Thorntree road provides access to the property via an asphalted road which falls under the jurisdiction of the Msunduzi municipality. There is currently a "Type 7A Access Road" which gives access to the proposed development with an internal gravel road to the site.

Water

There is an existing 110 mm municipal water line which supplies water to the existing properties along the road.

Sanitation

There is no water borne sewer network in this area, hence all existing properties are currently serviced by individual septic tanks with soak-aways.

Internal Roads

The proposed internal roads will be surfaced with a combination of continuously graded asphalt and paved with interlocking pavers connecting to Thorntree road.

All internal roads will be constructed to suit the anticipated traffic flow, with parking to be provided based on the architectural layout plan according to the town planning regulations. It is expected that the roads and parking area will be a minimum of 170 mm lower than finished floor slab levels of the proposed structures.

The geometric design will ensure:

- The access roads and parking will direct surface run-off away from the buildings, collected via kerb and channel along the outer perimeter of the parking and connected to a storm water network which will eventually disposes off storm water into the existing stream crossing through the current site. The storm water disposal will be controlled to prevent any scouring and erosion of the existing riverbanks, this will be possible with the construction of gabion baskets and reno mattresses along the river banks.

The following criteria will be used in the design of the roads applicable to the development:
Internal Roads: Minimum 5 m wide
Design Speed: Road 20 km/hr
Cross Fall: 2 %
Min K-Value: 4

Min Vertical Length:	20 m
Pavement Design:	60 mm interlocking paver / 30 mm continuously graded asphalt
	200 mm G2 base
	200 mm G5 natural gravel sub-base
	150 mm Rip and Recompact in-situ material
	Stabilised with 2 % lime or cement

It is expected that the roads and parking area will be a minimum of 170 mm lower than finished floor slab levels of the proposed structures.

Bulk Sewer

There is no bulk municipal sewer infrastructure available to service the site, hence the development will be required to provide their own sanitation system, complying with national building regulations and best practices. The development is expected to produce a total effluent volume of 18.84 m^3/day, which is based on 90 % of the water consumption.

As per the geotechnical engineering report prepared by Gondwana Geo Solutions, the percolation tests results have confirmed that shallow bedrock exists beneath the site area and are not suitable for the use of conventional septic tanks with soak aways.

Therefore, conservancy tanks shall be the preferred method of disposing of the waste. In addition, all kitchens or restaurants must have oil separators installed. Discussions with the developer have confirmed that they are also prefer conservancy tanks.

All effluent must be periodically removed by a specialist maintenance company and regular inspections of the conservancy tanks and oil separator must be carried out so that these are emptied before they overflow or backup (refer to **Appendix G3** for the Permission to Discharge at Darvill Letter).

Due to site area constraints, conservancy tanks shall be the preferred method of disposing of the waste. In addition, all kitchens or restaurants must have oil separators installed. Discussions with the developer have confirmed that they also prefer conservancy tanks. All effluent must be periodically removed by a specialist maintenance company and regular inspections of the conservancy tanks and oil separator must be carried out so that these are emptied before they overflow or backup (refer to **Appendix G3**).

The effluent must be transported and disposed of at the Darvill Wastewater Treatment Works in Pietermaritzburg. It is however important that conservancy tanks are located downstream of the proposed structures and they must not be less than 32 m away from a natural water source.

Internal Sewer Reticulation

The internal sewer reticulation serving the development will comprise a gravity fed sewer system comprising of a 110 mm sewer reticulation, concrete manholes and rodding eyes. It is strongly recommended that kitchen outlets from the restaurant are fitted with fat and grease traps in terms of the building regulations. This trap will separate the oil from the kitchen grey water before entering the sewer system.

It is recommended that the oil separator facility be contracted to specialist maintenance companies for regular inspections and clean outs. The standards for the internal sewer reticulation to be installed for the proposed development can be summarised as follows:
Pipe Material: uPVC
Pipe class: Class 34
Pipe diameters: 110 mm
Minimum Grade: 1:100
Maximum Grade: 1:14
Manholes: 1 m precast concrete, max 70 m spacing
Bedding: Flexible (SABS1200LB)
Minimum Cover: 600 mm

All internal services will be operated and maintained by the developer's maintenance team.

Alternative Sewage Solution:

An alternative would be to install a sewage package treatment plant; however, this would not be a viable option due to low and fluctuating sewage flow patterns, which makes it very difficult to balance the system and achieve effluent quality. The high operational and maintenance costs associated with such a small plant is not feasible. Small plants with variable flow rate are often problematic, which often leads to fluctuating effluent quality and is thus not desirable for a development of this size, nature and location.

Bulk Water Supply

The existing properties are served from the existing 150 mm diameter bulk municipal water line traversing along the R103. In addition, all four properties have been serviced with 15 mm diameter municipal connections, equating to a 60 mm diameter municipal line. The maximum daily water demand for the proposed development is approximately 10 kl/day; this volume is readily available from the Msunduzi municipality. Refer to **Table 17** for the daily water demand for the site.

Table 17: Daily water demand (KDA Consulting Engineers).

POTABLE WATER: THORNTREE ROAD DEVELOPMENT

Description	Person Count	Litres p/p/day as per the Red Book Guidelines	Total Water Demand	Peak Factor	Peak Daily Flow (Litres)	Peak Flow Rate (Litres per second : l/s)	Min. Pipe diam (m)	Min. Pipe diam (mm)
Type of Water Supply								
Daily Staff	36	40	1440	4	5760	0.066666667	0.011014645	11.01464545
Visitors, Guests, sleeping	130	150	19500	4	78000	0.902777778	0.040532798	40.53279776
Min Bulk Line Diameter Requierd							0.051547443	51.5474432

Internal Supply:

The internal water reticulation will be limited to a supply to the accommodation, conference facility & Restaurant. All internal bulk pipes shall be a combination of 32 mm, 22 mm & 16 mm uPVC / HDPE Class 12. Plumbing off the water pipes into the buildings (wet services) shall be provided by the architect. Each of the various components within the building complex should be metered separately to reconcile water consumption.

The firefighting requirements of the sites and storage area will be regarded as moderate risk according to the "*Guidelines for Human Settlement Planning and Designs*" due to the commercial section of the service station. All firefighting requirements will be provided by the architect; these will be in line with the Msunduzi municipality's firefighting requirements.

Storm Water:

The standards for the storm water infrastructure to be installed with the proposed development can be summarised as follows:
Flood recurrence interval: 5 years and critical points 10 years
Pipe material: Upvc
Pipe Class: Class "9"
Pipe Diameters: 110 mm to 200 mm
Bedding: Class B
Drains: Grassed & Concrete
Outlet: Headwalls with energy dissipaters, gabions and Reno mattresses

The storm water infrastructures will be constructed in accordance with the "*Guidelines for Human Settlement Planning and Designs*".

Storm Water Management:

At present all storm water generated on site percolates into the residual soils and the remainder sheet flows towards the existing stream located at the southern end of the site. The collection of surface runoff form roofs, roads and parking areas will be collected via appropriately sized pipelines, manholes, catch pits, concrete lined v-drains and directed to the existing stream. The pipeline that will flow into the stream must receive energy dissipation and scour protection to prevent scouring of the existing riverbanks. Reno-mattresses and gabion baskets would be recommended.

Refuse:

An enclosed collection point must be provided within the entrance of the proposed development to collect and store refuse until it can be collected by the municipality. The storage area should be bunded wind- and animal-proof. The refuse collection area must be provided with a drain to wash it out which is linked to the sewer system. It is also advised that recycling be practised where possible to practise and encourage green habits, such as recycling glass, paper, tins and plastic bottles.

Electricity

There is currently electricity provided to the sites, however, confirmation from the municipality regarding capacity has been addressed by the electrical engineer. An application for a bulk electrical connection should be made if necessary.

According to the Electrical Services Report (**Appendix D8**), the site currently has a 25 kVA electrical supply which is insufficient for the current usage. A formal application has been made to Eskom for a new 100 kVA dedicated supply to the site. The site was surveyed by Eskom to confirm the load required. The new supply will be located in the vicinity of the boundary gate. From this point the developer will have to reticulate to a central kiosk (existing) feeding various buildings.

GEOTECHNICAL ASSESSMENT

A Geotechnical Assessment was undertaken for the property (**Appendix D4**). The site is considered stable for the proposed development. No signs of potentially unstable slopes, such as tension cracks, deformed land features, isolated shallow emissions of groundwater or unfavourably dipping bedding planes or joints, which may give rise to general ground instability.

The geology of the site consists of bedrock that is very shallow, on average 0.6 m in the range of zero to 1.8 m below existing ground level. It is overlain by a mantle of soils comprising dark greyish brown clayey sands and very thinly developed residual soils consisting of yellowish-brown silty sand.

The area within which the site falls is classified as a Minor Aquifer within a broader area of moderate yield potential of variable water quality and is not considered to be part of an important groundwater supply aquifer on which this area is dependent on for general water supply. The Karoo rocks on this site are associated with very low permeability, i.e. the tillite in which groundwater flow is largely via fractures and other discontinuities. Storage capacity is limited. In general, the Karoo rocks form low to moderately productive aquifers, with typical borehole yields 1 to 3 l/s. Most groundwater aquifers in the Karoo Basin have Total Dissolved Solids (TDS) values between 450 and 1 000 mg/l, with the highest values in the west and south of the basin.

No groundwater was observed in any of the percolation test pits which were excavated to 0.90 m depth on average. The percolation tests indicate that the soils beneath the site are not suitable for the use of conventional septic tank and soakaway systems. This is because of the generally shallow bedrock beneath the site area. Therefore, due to no municipality water-borne sewage system available in the area, the following alternatives should be evaluated:

- Conservancy tank.
- Patented package plant.
- Septic-soakaway system with specially designed evapo-transpirative bed.

The septic-soakaway system with specially designed evapo-transpirative bed will be most economical and of relatively low maintenance. However, it must be designed by an experienced civil engineer. However, the Applicant wishes to make use of conservancy tanks as the preferred option.

HERITAGE IMPACT ASSESSMENT AND DESKTOP PALAEONTOLOGICAL IMPACT ASSESSMENT

A Heritage Impact Assessment (HIA) and Desktop Palaeontological Impact Assessment (PIA) was compiled for the project (**Appendix D2**).

The site footprint is located within an area where the underlying geology is given a low (green) palaeo-sensitivity rating on the SAHRIS map and these deposits could contain some palaeontological material. Rocks of the Karoo Basin are rich repositories for palaeontological material. The fossiliferous geology in the area of the proposed development consists of Late Carboniferous and early Permian deposits of the Dwyka Group. Construction was ongoing whilst the specialist was on site. Several slabs of rock were manually split open in search of possible fossil material but nothing was observed. Bedrock had been removed and was inspected for any potential fossil material but nothing was recorded. Only two stone tools were found during the ground survey, but due to the highly disturbed nature of the site they were on the surface and out of context. The one simply comprised of a flake, whereas the other consisted of a curved stone blade which showed evidence of edge utilisation.

In spite of several exposures of shale being examined at various points across the site for the presence of fossils, no palaeontological material was observed during the ground survey. In addition, no graves, historical buildings or archaeological sites were recorded on the property.

TRAFFIC IMPACT ASSESSMENT

A Traffic Impact Assessment was conducted for the site (**Appendix D6**). It was observed from the traffic counts that very low volumes of public transport vehicles travel on the surrounding road network during the day. The development will generate less than 1 000 trips in the peak hour; therefore, the development must be assessed for a 5-year design horizon (2027). The area in the vicinity of the proposed development is considered to be a low growth area from a traffic perspective. As such, a 2 % per annum growth rate was considered. All movements at the Thorntree Road and P1-5 (R103) intersection will operate at a Level of Service (LoS) A or B during the weekday AM and PM peak hours. The development will have a negligible impact on the surrounding road network. All movements at the intersections analysed will operate at acceptable levels of service.

WETLAND ASSESSMENT

A Wetland Assessment (Appendix D5) was compiled for the project.

A total of four (4) Hydro Geomorphic Units (HGM) were identified in the retrospective assessment.

- Two (2) channelled valley-bottom wetlands (**HGM Units 1 & 3**) were identified on site that has had impacts imparted by the site activities; however, not adversely impacted and remains largely *in-situ*. These are naturally occurring wetlands that have been features in the landscape prior to 1944; though, they have increased in size due to the cessation of agricultural activities and being in a valley floor, received increased source point stormwater discharges in the developing urban landscape.
- Two (2) depression wetlands (**HGM Units 2 & 4**) were identified on site and were impacted by the site activities. **HGM Units 2** and **4** have been established in-stream of **HGM Unit 1** for the purposes perceived for water storage (i.e., in-stream dams) for livestock watering and agricultural irrigation.

HGM Unit 1, a channelled valley-bottom wetland, is the larger and more prominent wetland on site that has had two (2) dams (**HGM Units 2 & 4**) constructed that has resulted in some change to the wetlands presence. **HGM Unit 1** remains largely intact; however, the dams, vegetation clearing, boundary walls / fences and construction of elevated wooden cabins has resulted in the wetlands integrity to decline.

HGM Unit 2, a depression wetland, is an exceedingly small artificial system (in-stream dam) that appears to have been potentially established *circa* 1967. Currently the dam wall and spillway has been altered for the purposes for construction of elevated wooden cabins and potentially impacted by the April 2022 floods.

HGM Unit 3, a channelled valley-bottom wetland, abuts the R103 roadway where flows are confined and directed via culvert to a Tributary of the *Mpushini* River. The wetland has, overtime, increased in size due to stormwater flows from the R103 being directed to the wetland and the cessation of cultivated fields. Currently, the wetland is intersected by the establishment of a boundary wall and security fence, elevated wooden cabins and septic tank soak-away.

HGM Unit 4, a depression wetland, is an exceedingly small artificial system (in-stream dam) that appears to have been potentially established *circa* 1998. The dam had established following the insertion of a pathway and security fence line. Currently, the dam remains in-situ; however, drains and re-establishment of the pathway has altered the dam's integrity to a limited degree.

11.2 Positive and Negative Implications of the Project

Positive

- During the construction phase, the project contributed positively to the local economy and the social environment through spending of capital at local businesses.
- Several temporary employment opportunities have been generated during the planning phase.

- 40 plus temporary employment opportunities were also generated during the construction phase, which included contractors and labour (skilled, semi-skilled, and unskilled labour).
- The site has resulted in the generation of approximately 40 new employment opportunities. This in turn resulted in skills development, income generation and improved quality of life.
- In KwaZulu-Natal one job supports seven dependents. Approximately 40 employees are expected to be sustained by the Applicant during the Operational phase. Thus, the Thorntree Hotel has the potential to result in 280 dependents being supported during the operational phase.
- The unlawful construction of the Thorntree Hotel and associated infrastructure was unlikely to have resulted in any impacts to heritage or palaeontological resources.
- The operational phase of this development is expected to be long term. The economic contributions through job creation and local economic development are especially significant given the need for economic growth and employment opportunities in the area.
- There will be opportunities to continuously train and develop employees though the normal processes of customer service and company on-boarding.
- Access onto and off the property has been controlled during the construction phase and will continue to be controlled during the operational lifetime of the project.
- No archaeological sites, fossils, graves or historical buildings were observed on site.
- The development will have a negligible impact on the surrounding road network. All movements at the intersections analysed will operate at acceptable levels of service.

Negative (Long-term / operation)

- The rezoning of the site must be completed and approved.
- Four HGM Units have been negatively impacted upon.
- The unlawful activities are not in keeping with the surrounding agricultural setting and have impacted on and altered the sense of place of the area.
- Completing the construction phase will generate noise and dust from the use of construction machinery and increased traffic (construction vehicles) and dust.
- This impact, however, is only a temporary impact, ending with the completion of the construction phase.
- Unauthorised activities on the Eastern Valley Bushveld Portion included vegetation clearing and construction of five (5) chalets. These collective impacts have severed connectivity within the CBA. Another two units were constructed under the Eastern Valley Bushveld but are outside the CBA.

11.3 Environmental Opinion

In the interests of all spheres of the environment, namely, the economic, social, cultural and biophysical, and in the interests of sustainable development, the Environmental Consultant recommends that this Environmental Authorisation be granted, with conditions. The Section 24G Report confirms that, in terms of the environment, retaining the majority of the development infrastructure is best practice, provided that the following mitigation measures are made conditions of the Environmental Authorisation. It is evident that the ecological impacts associated with the removal and decommissioning of the Hotel would be significantly detrimentally and as such, the positive impacts associated with the operational lifetime of the project, far outweigh the identified negative impacts. It is preferred that the Hotel remain in its current state and be rehabilitated according to the specialists' recommendations. The Section 24G Report indicates that the socio-economic impacts associated with the decommissioning of the Hotel would have far reaching negative impacts, not only for the labour currently employed at the Hotel, but also their dependents, as well as the local economy.

Recommended conditions to be included in the Environmental Authorisation:

SAFETY AND MONITORING

The Appended Environmental Management Programme (EMPr) must be strictly enforced.

BIODIVERSITY

- The construction of accommodation units within the CBA Irreplaceable Area (and within a wetland buffer) must be mitigated by removal of the structures and all building materials from the 0.26 ha cleared area.
- Allow the regeneration of indigenous trees and shrubs, through not mowing or burning the site and ongoing control of invasive alien plants as specified in the EMPr (**Appendix E**).

SURFACE WATER AND WETLANDS

- A 32 m buffer has been applied to the HGM Units identified. HGM Units 1 – 4 are the only buffers that have been intersected by the site with site activities resulting in an impact onto the HGM Units.
- All invasive alien plants within the impacted HGM Units 1 - 4 and the initial 10 metres of the 32 m buffer zone must be removed.
- Monitoring of the rehabilitation activities must be conducted by a suitably qualified Environmental Control Officer (ECO) with appropriate watercourse and rehabilitation knowledge.

GEOLOGY AND SOILS

- All kitchens or restaurants must have oil separators installed.
- All effluent must be periodically removed by a specialist maintenance company and regular inspections of the conservancy tanks and oil separators must be carried out so that these are emptied before they overflow or backup.
- The effluent must be transported and disposed of at the Darvill Wastewater Treatment Works in Pietermaritzburg. Confirmation must be sought from the Darvill Wastewater Treatment Works that they have capacity to dispose of the development's effluent.
- It is important that conservancy tanks are located downstream of the proposed structures, and they must not be less than 32 m away from a natural water source.

GENERAL

- Appropriate measures must be implemented to minimise the area of soil disturbance and the potential for the mobilisation of bare or disturbed areas.
- Removal of alien invasive vegetation, and rehabilitation and revegetation of bare or disturbed areas must take place and must be ongoing during the operational lifetime of the project.
- Areas of active soil erosion must be controlled immediately and be continually controlled during the operational lifetime of the project.

12 CONCLUSION

The Environmental Consultant recommends that the development receive retrospective Environmental Authorisation, with conditions. The approval of the continuation Environmental Authorisation will ensure that stormwater management on site will be implemented and stormwater discharge be controlled. Additionally, the four wetland systems will be rehabilitated according to the requirements that are stipulated within the Wetland Impact Assessment. The Environmental Consultant acknowledges that the illegal activity has contravened GNR 327 and GNR 324, and that illegal activities cannot be condoned. However, it has allowed the Applicant to provide 40 permanent jobs to people in the surrounding community. Having a Hotel with amenities such as a restaurant, salon, health studio, laundry, gym, spa and conference centre is a big draw factor for the local economy and will be open to the public. This can allow businesses and companies to help meet the demand for team building events, meetings, getaways, retreats and conferences, as well as having convenient accommodation for private individuals. The development of the site will result in greater socio-economic benefits when compared to leaving the site undeveloped.

The operational phase of the Hotel and associated facilities is expected to be long term. If authorisation is not granted and the Applicant is forced to decommission the Thorntree Hotel and associated infrastructure; there will be significant negative socio-economic impacts; most notably, job loss. The positive impacts that would be gained as a result of this decommissioning would be inconsequential. It is, therefore, the Environmental Consultants opinion that it is preferable to grant retrospective authorisation, on condition that the recommended mitigation measures are adhered to.