APPLICANT: ELSPETH HUMPHREYS

APPLICATION TO RECTIFY UNLAWFUL COMMENCEMENT OF LISTED ACTIVITIES: TOURIST ACCOMMODATION FACILITIES AND CLEARANCE OF INDIGENOUS VEGETATION ON PORTIONS 16, 17 AND 18 OF THE FARM FRANSCHOEK 593-LT IN MAGOEBASKLOOF, NEAR TZANEEN, LIMPOPO PROVINCE

FINAL ENVIRONMENTAL IMPACT ASSESSMENT REPORT

OCTOBER 2017

POLYGON
ENVIRONMENTAL PLANNING

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ACRONYMS AND ABBREVIATIONS:	
DWS	Department of Water and Sanitation
EIA	Environmental Impact Assessment
EMPR	Environmental Management Programme
Ha	Hectare
HIA	Heritage Impact Assessment
I&AP	Interested and/or Affected Party
LDEDET	Limpopo Department of Economic Development, Environment and Tourism
MAMSL	Metres Above Mean Sea Level
MAP	Mean Average Precipitation
NEMA	National Environmental Management Act (1998)
PA	Protected Area

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1. INTRODUCTION

Polygon Environmental Planning has been appointed to undertake a Section 24G rectification application with regards to existing and future proposed accommodation facilities and the clearance of indigenous vegetation on the portions 16, 17, 18 of the farm Franschoek 593-LT. The properties are located approximately 16.3km west-south-west of Tzaneen within the Greater Tzaneen Municipality, Limpopo Province.

On 23 January 2017 the applicant, Elspeth Humphreys, and her husband Ralph received, from the Limpopo Department of Economic Development, Environment and Tourism (LDEDET), a notice of intention to issue a compliance notice for unlawfully undertaking activities listed in the Environmental Impact Assessment (EIA) Regulations (2014). This related to their earlier conversion of old stables into tourist accommodation, establishment of a camp site, and clearance of an area of indigenous vegetation for establishment of a dwelling for their daughter, which she plans to move into shortly. The activities triggered activities listed in Listing Notice 3 of the EIA Regulations and as such required Environmental Authorisation (EA).

Prior to the receipt of the of the pre-compliance notice, Mr and Mrs Humphreys were unaware that these activities needed EA. In order to bring the facilities in line with environmental legislation, they are therefore undertaking a rectification application in terms of Section 24G of the National Environmental Management Act (NEMA, Act 107 of 1998).

2. PROJECT DESCRIPTION

Herb Cottage

The applicant and her family have been living on the farm for 2 decades, where they have farmed Avocados and Macadamias and grown herbs. When they first arrived in the farm they constructed a stable and grassed paddock on Portion 16 of the Farm Franschoek 593-LT in 1998, where they kept horses. Unfortunately, the horses did not cope well in the environment, which led them to do away with the horses. The stables were then unused for some time, before being renovated into a tourist chalet, at which time the deck, carport and pool were also added, and the paddock was converted to landscaped garden. It has been rented out as tourist accommodation (capacity 4 people) since 1 June 2014 and is known as "The Herb Cottage", consisting of the chalet, deck, pool and carport (total footprint 245m^2) and a garden (footprint approximately 900m^2).

Sewerage goes into a closed septic tank next to the cottage, from where it is pumped to a french drain which is located 100m from the stream.

Coral Tree Camp

Between 1996 and 1998, a small platform was opened up on the slope of a mountain on Portion 18 of the Farm Franschoek 593-LT for the planned construction of a dwelling for the applicant's son. This was expanded over time until 2012, to its current extent of 1 700m^2. However, the son subsequently moved away from the area, and it was decided to use the platform for tourism accommodation instead.

From June to December 2014, a lapa (including swimming pool and deck) and ablution block were constructed (total footprint 66m^2) in order to rent the site out as a camp site. It has been rented out from 1

January 2015 and initially accommodated up to 8 people per night, but now accepts only 6 people per night. Only one booking / group is accepted per night, regardless of whether it is for one person or six, therefore the site is often occupied below its full capacity. Sewerage goes into a closed septic tank and is pumped to a French drain.

Daughter's House

The applicant's daughter's house is located on Portion 17 of the Farm Franschoek 593-LT. Construction on the house started 01/05/2016 and includes the house, carport and a pool which occupy a footprint of 165.28m^2. Together with the garden, 1 700m^2 of indigenous vegetation was cleared for this development. It is envisaged that in future, if the daughter moves away, the dwelling will also be converted to tourist accommodation, which will be able to accommodate 4 people.

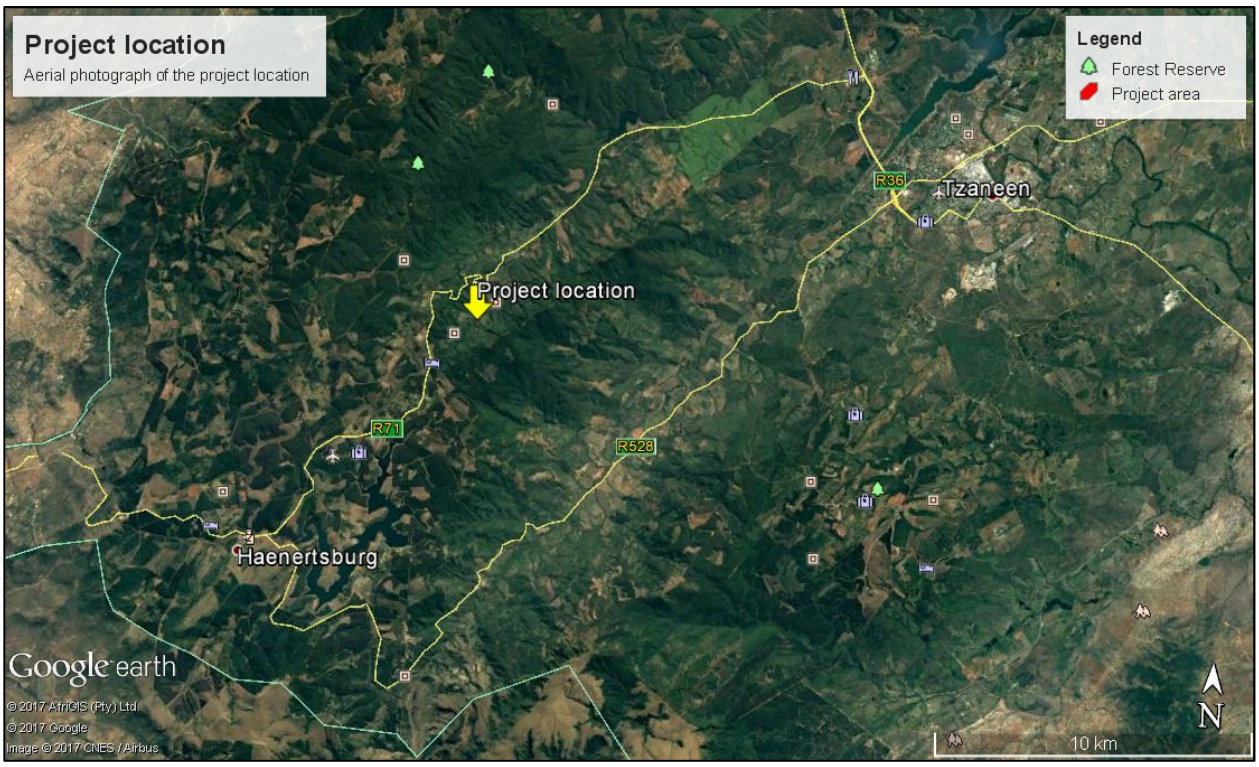
3. SITE DESCRIPTION

3.1. Location

The project is located on the farms portions 16, 17 and 18 of the Farm Franshoek 593-LT, 16.5km West-southwest of Tzaneen within the Greater Tzaneen Municipality of the Mopani District, Limpopo Province. The farm portions are located within Magoebaskloof Valley and can be accessed by a gravel road connecting the farm portions to the R71 regional route.

The approximate coordinates of the centre of the properties, which are located adjacent one another, are 23° 52' 51.87" S and 30° 00' 37.63" E.

Figure 3.1: Aerial photograph of the site location (Google Earth 2017)



3.2. Site Description

The farm portions occupy a total area of 28.15 ha, most of which is comprised of indigenous bush. Cultivated lands which are used for the commercial production of avocados take up approximately 2.5ha or 10% of the property; these are mostly located on the valley bottom and on some of the slopes where the gradient is not too steep. Besides the infrastructure to which this report pertains, a farm shed, small area of shade netting for herb cultivation, and the applicant's dwelling are also located within the farm portions.

Much of the surrounding land use in the area mirrors that observed on the site. Commercial avocado and Macadamia farming takes place within the Valley bottom and on gentle to semi-steep slopes where farming is still possible. Higher regions on the Magoebaskloof Valley tops are used for forestry; Pine and Eucalyptus. A number of perennial and non-perennial streams flow down these valley sides where they meet the Politsi River. Ecologically the farm is in a healthy state as a result of limited human disturbance and the responsible farm management practices exercised.

The farm is located just north-east of the Boundary of the Kruger to Canyons Biosphere Reserve. A number of Formal land based Protected Area's (PA) are located around the site, namely: Tzaneen Dam PA (2.5 km north), Ebenezer PA (4 km South-west) and Wolkberg Wilderness area (16km south). Lastly, the area within which these developments have taken place is located in the Wolkberg Centre of Endemism.

According to the Limpopo Conservation Plan V.2, 90% of the farm is located in a Critical Biodiversity Area 1 (CBA 1). The remaining sections of the farm are situated on Ecological Support Area 2 (ESA 2). The Coral Tree Camp and Daughter's House are all located in CBA 1's. The Herb Cottage is located in both CBA 1 and ESA 2 areas equally.

All the sites are within the Woodbush Granite Grassland, which is Critically Endangered.

Figure 3.2: Aerial photo showing the property boundaries and location of the relevant infrastructure (BGIS, 2017)

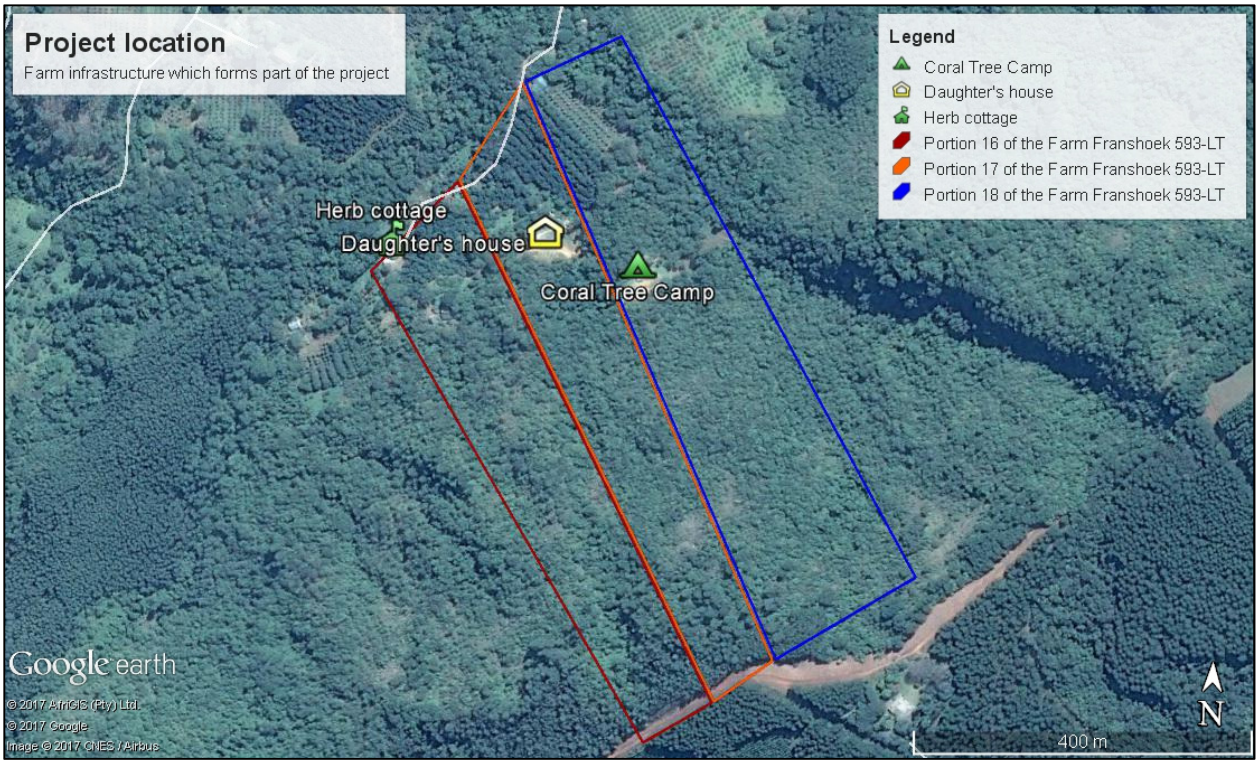
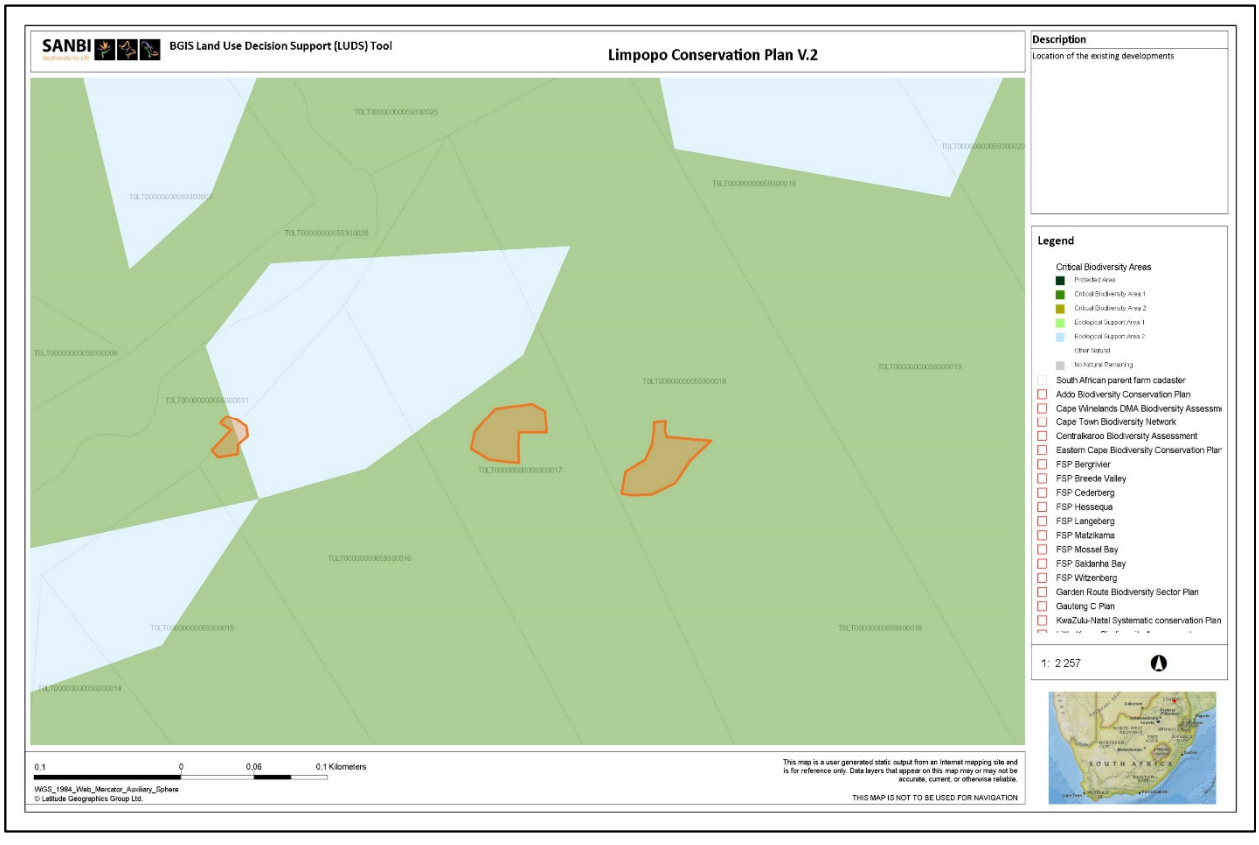


Figure 3.3: Location of project areas in the context of CBAs.



The following table summarises general information with regards to the site. The aspects listed are expanded upon in the following sections.

Table 3.1: General information pertaining to the site

Local municipality	Greater Tzaneen Municipality
District municipality	Mopani District Municipality
Property description	Portions 16, 17 and 18 of the farm Franschoek 593-LT
Ownership	Portion 16: Fra Mar CC Portion 17: SWW Eiendomme CC Portion 18: Elspeth Janet Humphreys
Zoning	Agriculture
Land use	- Agriculture - Low-density residential - Natural areas - Tourism
Vegetation type	Woodbush Granite Grassland (Gm 25)
Coordinates	23° 52' 51.87" S and 30° 00' 37.63" E

4. MOTIVATION

Although the activities were undertaken in a sensitive area, the extent is quite small in terms of footprint and capacity. The applicant has also tried to undertake the activities in an "environmentally friendly" manner by for instance planting a large number of indigenous trees on the property and taking steps to prevent contamination of water resources. The continued operation of the activity is not anticipated to lead to significant impacts or environmental degradation. It is anticipated that impacts can be managed sufficiently through implementation of the EMPR.

The applicant did not purposefully undertake unlawful activities; she did not realise that activities of such a small extent need EA in certain instances (in Listing Notice 3 areas). She only became aware of the need for EA upon receipt of a pre-compliance notice from LDEDET. Since receiving the first correspondence from LDEDET, she has given her full cooperation, providing all the information requested by LDEDET and appointing an EAP (Polygon Environmental Planning) to undertake a Section 24G rectification application in order to bring the activities in line with environmental legislation.

5. LEGISLATIVE FRAMEWORK

The following legislation has been considered in this project:

5.1. Environmental Legislation

- *National Environmental Management Act (No 107 of 1998), as amended*

Section 24G of NEMA (as amended) stipulates the process to be followed for the rectification of unlawful commencement or continuation of a listed activity.

The following listed activities were transgressed in the EIA Regulations.

Table 5.2: Applicable activities in terms of the EIA Regulations (2010 and 2014).

Relevant notice	Activity number	Description
GNR 546 of 2 August **2010**, as amended 2013	5(d)(i)(aa) 5(d)(i)(cc)	Conversion of stables into a tourism accommodation facility (chalet) that sleeps 4 people, outside urban areas, within a critical biodiversity area (CBA1) and within 100m from a watercourse. It has been operating as a tourist facility since June 2014.
GNR 546 of 2 August **2010**, as amended 2013	12(a) 12(b)	Clearance of approximately 1 700m^2 of indigenous vegetation for the Coral Tree Camp, within a critically endangered ecosystem (Woodbush Granite Grassland) and a CBA1. Clearance was done between 1996 and 2012.
GNR 546 of 2 August **2010**, as amended 2013	18(a)(ii)(cc) 18(a)(ii)(ee) 18(a)(ii)(gg)	The expansion of tourism or hospitality facilities (chalet) where the development footprint was expanded through the addition of a carport, deck and pool, outside urban areas, in a CBA1 and within 5km of the Tzaneen Dam Protected Area. In terms of the Olifants Letaba Environmental Management Framework (OLEMF), the site is also indicated on the higher end of the sensitivity spectrum (3 or 4 out of a maximum of 6).
GNR 985 of 4 December **2014**	5(c)(ii)(aa) 5(c)(ii)(cc)	Establishment of facilities (ablutions, kitchen and lapa) on a pre-existing earthen platform in order to be used as tourism accommodation (camping site) that sleeps 6 people, outside urban areas, within a CBA1 and within 100m from a watercourse. It has been operating as a tourist facility since January 2015. Also the proposed future use of the existing dwelling (daughter's house) for tourist accommodation accommodating 4 people, outside urban areas, within a CBA1 and within 100m from a watercourse.
GNR 985 of 4 December **2014**	12(a)(i) 12(a)(ii)	Clearance of approximately 1 750m^2 of indigenous vegetation for construction of a dwelling within a critically endangered ecosystem (Woodbush Granite Grassland) and a CBA1.
GNR 985 of 4 December **2014**	12(a)(i) 12(a)(ii)	Clearance of approximately 1 700m^2 of indigenous vegetation for the Coral Tree Camp, within a critically endangered ecosystem (Woodbush Granite Grassland) and a CBA1. Clearance was done between 1996 and 2012.

5.2. Other Legislation

The following table outlines other, non-environmental legislation which will or may be applicable to the project.

Table 5.3: Other applicable legislation

LEGISLATION	RELEVANT SECTIONS	PERTAINS TO
The Constitution Act (No 108 of 1996)	Chapter 2, Section 24	Bill of Rights: Environmental rights
Conservation of Agricultural Resources Act (1983)	Section 5	Prohibition of the spreading of weeds
Fertilizers, Farm Feeds, Agricultural Remedies and Stock Remedies Act (No 36 of 1947)	Sections 3 – 10	Control of the use of pesticides, herbicides and fertilizers, and precautions to protect workers in this regard
Limpopo Environmental Management Act	Schedule 2, 3, 11 and 12	Lists of protected animals and plants
National Environmental Management: Air Quality Act (No 39 of 2004)	Section 32	Control of dust
	Section 34	Control of noise
	Section 35	Control of offensive odours
National Environmental Management: Biodiversity Act (No 10 of 2004)	Section 57	Restricted activities involving listed threatened or protected species
	Sections 65–69	Regulation of activities involving alien species
	Sections 71, 73 and 75	Regulation of activities involving invasive species
National Heritage Resources Act (No 25 of 1999)	Section 34	Protection of structures older than 60 years
	Section 35	Protection of archaeological and palaeontological sites and material as well as meteorites
	Section 36	Conservation of burial grounds and graves
National Forests Act (No 84 of 1998), as amended by the Forestry Laws Amendment Act (No 35 of 2005)	Section 7	Prohibition on destruction of trees in natural forests
	Sections 12–16	Declaration of trees, groups of trees, woodlands or tree species as protected
	Section 17	Declaration of controlled forest areas
National Water Act (No 36 of 1998)	Section 19	Prevention and remedying effects of pollution, particularly where pollution of a water resource occurs or might occur as a result of activities on land
	Section 20	Control of pollution of water resources following an emergency incident
	Chapter 4 (Sections 21-55)	Governs water use
Occupational Health and Safety Act (No 85 of 1993)	Section 8	General duties of employers to their employees
	Section 9	General duties of employers and self-employed persons to persons other than their employees

6. INVESTIGATION OF ALTERNATIVES

6.1. Project Alternatives

For the Herb Cottage, an alternative project was initially implemented, which was the use of the site as horse stables and paddock. This was not viable, as the micro-climate was not suitable for horses. As tourism is a viable sector of the local economy and the site is located in a very scenic area, it was therefore decided to utilise the facility as tourism accommodation instead.

For the Coral Tree Camp, the site was initially planned to be used for the construction of a dwelling for the applicant's son, but he moved away and there was no longer any reason to proceed with construction. Due to the slope, there are few, if any, other viable, income-generating activities that could be practised here; for instance, agriculture would not be feasible. However, the scenic views of the site and the fact that there was an existing gravel road up to the site made it suitable for small-scale tourism accommodation.

For the daughter's house, no other project alternatives were investigated, as the aim was to construct a dwelling for her.

6.2. Site Alternatives

No alternative properties were investigated, as these properties were already owned by the applicant. On the properties, the particular sites were selected as follows:

- Herb Cottage: The existing stables were suitable for conversion to a tourist chalet and located in a scenic spot, hence no other sites were investigated.
- Coral Tree Camp and Daughter's House: The sites were the only viable spots, as they were accessible (most of the rest of the farm is inaccessible due to steep slopes) and offer scenic views due to the raised elevation. There were also already gravel roads up to these sites.

6.3. Design Alternatives

No alternative designs were considered.

6.4. No-go Alternative

As the development has already occurred the No-go alternative is not possible as the impacts resulting from the construction of the infrastructure have already occurred.

7. IMPACT ASSESSMENT METHODOLOGY

Impacts – whether anticipated or already experienced – were scored on the following basis:

- **Status:**
  - *Positive* – the proposed project will have a positive impact in terms of the particular parameter;
  - *Negative* – the proposed project will have a negative impact in terms of the particular parameter;

- *Neutral* – the proposed project will have neither a positive nor a negative impact in terms of the particular parameter.

- **Extent:**
  - *Site-bound* – the impact will be felt only on the site itself;
  - *Local* – the impact is to be felt on the site and in its immediate surroundings, up to a radius of 50km from the site);
  - *Sub-regional* – the impact is to be felt at a distance of up to 100km from the site;
  - *Regional* – the impact is to be felt in the Limpopo Province;
  - *National* – the impact is to be felt across provincial boundaries.

- **Duration:**
  Refers to the period of time over which impacts can be expected to be experienced.

  - *Short term* – 0 to 5 years;
  - *Medium term* – more than 5 years, up to 15 years;
  - *Long term* – more than 15 years;
  - *Permanent* – the impact is irreversible.

- **Magnitude:**
  Refers to the intensity of the potential impact, if it is experienced.

  - *Negligible* – the impact will barely be felt, if at all. No mitigation required;
  - *Low* – the parameter will only be affected to a small extent by the proposed project. No mitigation required, but monitoring is recommended;
  - *Medium* – the parameter will be affected by the proposed project, but functions in terms of the parameter can still continue. Mitigation and monitoring required;
  - *High* – functioning in terms of the parameter will be significantly affected by the impact. Extensive mitigation and long-term monitoring required.

- **Likelihood:**
  - *Improbable* – it is unlikely that the impact will be experienced;
  - *Possible* – the impact may be experienced. Monitoring required; mitigation may also be required based on the type of impact and its significance;
  - *Highly probable* – the impact will most likely be experienced. Monitoring and mitigation required based on the type of impact and its significance in order to reduce the probability of the impact occurring and/or to reduce the magnitude of the impact;
  - *Definite* – the impact will be experienced or has already been experienced. Monitoring and mitigation required based on the type of impact and its significance in order to reduce the probability of the impact occurring and/or to reduce the magnitude of the impact.

- **Significance:**
  Significance is based on a consolidation of the anticipated extent, duration, magnitude and likelihood of the potential impact.

  - *Negligible* – The impact will barely be felt, if at all. No mitigation required;

- *Low* – The parameter will only be affected to a small extent by the proposed project. No mitigation required, but monitoring is recommended;
- *Medium* – The parameter will be affected by the proposed project, but functions in terms of the parameter can still continue. Mitigation and monitoring required;
- *High* – Functioning in terms of the parameter will be significantly affected by the impact. Extensive mitigation and long-term monitoring required.

8. RECEIVING ENVIRONMENT: BIOPHYSICAL ASPECTS

8.1. Climate

8.1.1. *Status quo*

The site is situated in the Woodbush Granite Grassland (Gm25) vegetation unit. Rainfall in this location varies as the unit receives 700mm of rainfall in the east and 1 500mm of rainfall in the west. The project site is located in the central region of the vegetation unit and the lower elevation as described by Mucina and Rutherford (2006). The dynamic topography of the location and its position on the slopes of the Great Escarpment may lead to orographic effects and because of this it is likely that the farm portions receive rainfall amounts similar to the more wet western sections of the vegetation type. Most of the rainfall falls in November, December, January and February while the winters are dry and cold with less that 10mm falling per month from May-August (Mucina and Rutherford, 2006).

Temperatures are generally cooler in the western regions of the unit as opposed to the units' eastern boundary. Expected mean annual temperature is 16.6℃. Average summer maximums rarely reach 30℃ while maximum winter temperatures hover around 18℃. Summer and winter minimum temperatures are 16℃ a 5℃, respectively. Frost is infrequent at the lower elevation of the unit where the project is located.

8.1.2. *Impacts*

The project is **not** anticipated to impact upon climate. The climate may impact on the project to a very low extent in that rainfall may lead to soil erosion.

Table 8.1: Impacts in terms of climate

IMPACTS LIKELY EXPERIENCED DURING CONSTRUCTION PHASE						
Potential impact	**Status**	**Extent**	**Duration**	**Magnitude**	**Likelihood**	**Significance**
Cleared areas may have been more susceptible to land-slides and/or soil erosion in heavy rainfall events.	Negative	Local	Short term	Medium	Possible	Low
OPERATIONAL PHASE						
Bare slopes where construction has taken place may be more susceptible to land-slides in heavy rainfall events.	Negative	Local	Short term	Medium	Possible	Low

Increased soil erosion in bare areas and associated siltation of the nearby streams	Negative	Local	Long term	Low	Possible	Very low

8.2. Topography, Hydrologys Wetlands, Soils and Geology

8.2.1. *Status quo*

Topography, Hydrology and Wetlands

The landscape of the vegetation unit consists of the Woodbush Plateau which is covered by grasslands. Steep valleys, which are densely forested, break up the environments which were historically covered in grasslands, though transformed by silviculture. The project site is located in such a steep valley where the elevation of the farm portions drops from a maximum of 1465 meters above mean sea level (mamsl) to its lowest elevation of 1103 mamsl. The aspect of the entire farm is west facing.

A change in the topography has occurred at the Daughter's House and the Coral Tree Camp where platforms were created through cut-and-fill.

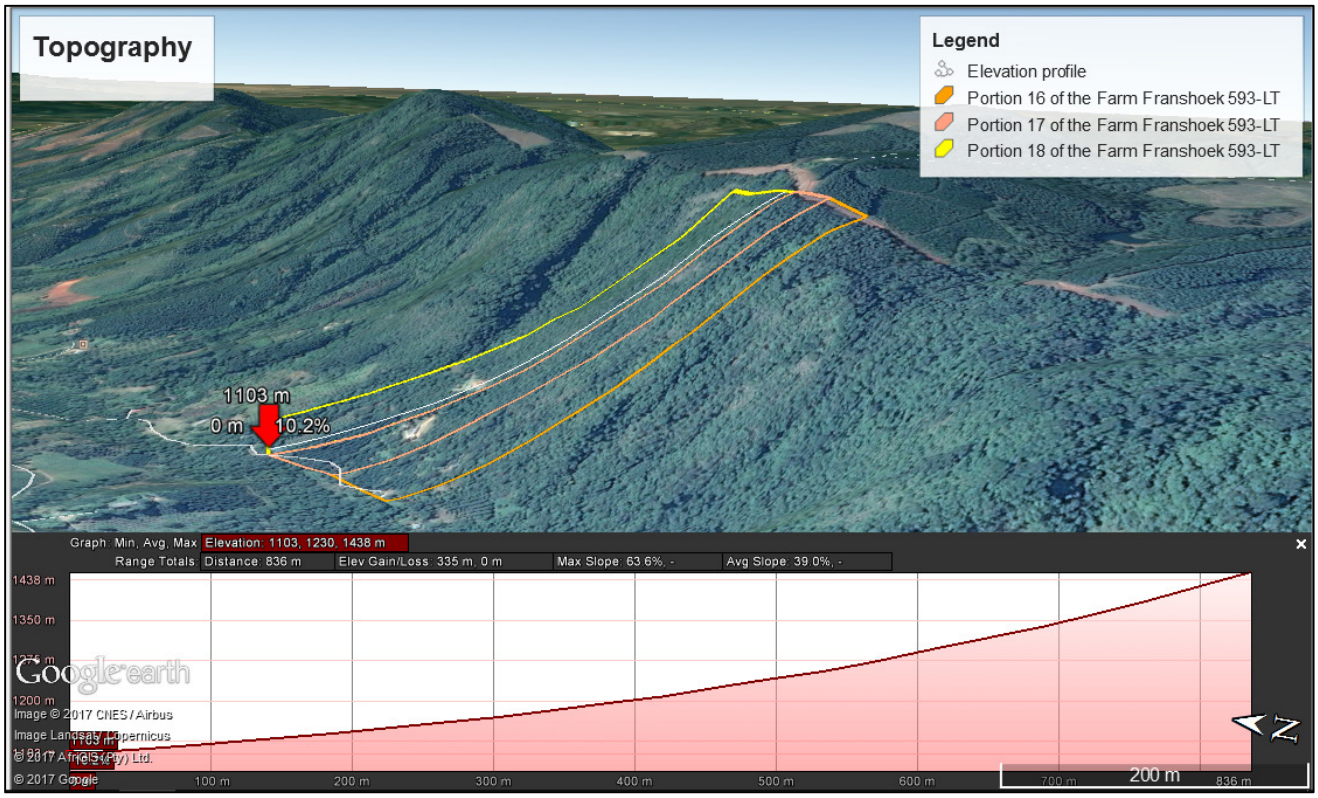
The farm is positioned in the B81B quaternary catchment, situated in the Groot-Letaba Sub-Water Management Area. This previously belonged to the Levhuvhu/Letaba Water Management Area (WMA) but now falls within the Olifants WMA which is the Primary drainage region B.

The farm is located approximately 1.5km from the source of the Politsi River which is a National Freshwater Ecosystem Priority Area (NFEPA) River. At no point does the river intersect the property, however; it runs in a west-south-westerly direction and passes approximately 50m from the farm at its nearest point to the farm portion western boundary. A few small non-perennial streams originate in the eastern high-altitude region of the farm portions and flows west down the valley slopes where it joins the Politsi River outside of the project area boundary. This area is of high ecological importance as limited disturbance in the indigenous forests within steep inaccessible gorges has ensured that the system has remained in a mostly natural condition (DWS, 2016).

There are some concerns about localised water quality challenges related to agricultural practices, however, these are relatively minor in impact. The major challenges facing this area are water quality challenges as a result of the extensive agricultural practise around the Tzaneen area as well as ensuring that water resource demands are able to match the resource availability. Groundwater resources in the area are currently underutilized.

Polygon commissioned a wetland opinion which was completed by Limosella Consulting on the 3rd of May 2017. During the investigation Limosella Consulting investigated whether wetland characteristics were located in the watercourse (Politsi River) 50m north-west of the Herb Cottage. The soil profiles indicated **no** clear mottling or gleying, furthermore **no** plants adapted to saturated conditions were observed in the Herb cottage garden or along the stream. It is Limosella's opinion that **no wetland conditions** are present within 500m of the existing developments (Limosella Consulting, 2017). Please refer to their attached report.

Figure 3.3: Aerial photo showing the general topography of the farm portions, please take note the north arrow (Google Earth 2017)



Soils

Soils are red or yellow with a medium to low base status and favourable physical properties. They have a low natural fertility with restricted depth and excessive drainage. The freely drained, structureless soils have a high erosion potential is high in some areas' (BGIS, 2016). The dominant Land type is Ab, with Hutton (Glenrosa and Shortlands) soils (Mucina and Rutherford, 2006).

Regional geology

The region is underlain by granite, gneiss and greenstone basement: Turfloop granite (Randian) and relicts of Goudplaats gneiss (Swazian) and occasional dolerite dykes or sills, and quartz veins. (Mucina and Rutherford, 2006).

8.2.2. *Potential impacts*

A slight change in the topography of the area has occurred which has likely increased the susceptibility of the Daughter's House and Coral Tree Camp to landslides. Landslides after heavy rains do occur in the area, during the 2000 floods the Magoebaskloof route was not passable due to landslides that occurred on the road. By excavating into the mountainside and loading the downslope side of the developments the susceptibility of the area above and below both the Coral Tree Camp and the Daughter's House to a landslide may have been increased.

Mitigation measures, in the form of tire and concrete retaining walls, have been put in place and have likely reduced the probability of land-slides occurring. Furthermore, bare areas have all been re-seeded and planted with indigenous vegetation, as time passes the roots of the vegetation planted will infiltrate the soil further stabilizing it.

Increased erosion will occur in areas where vegetation is yet to become established. However, this is likely to be insignificant as these areas are small.

Possible contamination of soil by cement or diesel during the past construction phase may still present some negative impacts, but this is gauged to be of negligible significance. During the operational phase, the possibility exists of contamination of groundwater or surface water by sewerage from the facilities in case of leakage or spillage.

Soil compaction and construction of buildings may also have slightly altered surface water flow as well as groundwater flow towards watercourses, but due to the small extent of the facilities this is gauged to be of very low extent.

Table 8.2: Impacts in terms of topography, hydrology, wetlands, soils and geology.

IMPACTS LIKELY EXPERIENCED DURING CONSTRUCTION PHASE						
Potential impact	**Status**	**Extent**	**Duration**	**Magnitude**	**Likelihood**	**Significance**
Risk of soil contamination by e.g. sewage generated onsite, cement, diesel	Negative	Local	Short term	Very low	Possible	Very low
Cleared areas may have been more susceptible to land-slides and/or soil erosion in heavy rainfall events.	Negative	Local	Short term	Medium	Possible	Low
OPERATIONAL PHASE						
Bare slopes where construction has taken place may be more susceptible to land-slides in heavy rainfall events.	Negative	Local	Short term	Medium	Possible	Low
Increased soil erosion in bare areas and associated siltation of the nearby streams	Negative	Local	Long term	Low	Possible	Very low
Impedance of surface and groundwater flow by soil compaction and construction of buildings	Negative	Local	Long term	Very low	Highly probable	Very low

Possible surface water or groundwater contamination by sewerage from dwelling and tourist accommodation	Negative	Local to sub-regional	Long term	Low	Possible	Low

8.3. Terrestrial ecology

8.3.1. *Status quo*

Vegetation

The survey area is located within the Grassland Biome of southern Africa and specifically within the Mesic Highveld Grassland (GM) (Mucina & Rutherford 2006). A bioregion is a composite terrestrial unit that is defined on the basis of broadly similar biotic and physical features. The vegetation of the area where the developments have taken place was most recently classified as belonging to a single vegetation type namely Woodbush Granite Grassland (Gm 25). The unit was previously classified as North-Eastern Mountain Sourveld VT 8 by Acocks (1953) and Sour Lowveld Bushveld LR 43 by Low & Rebelo (1996).
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Woodbush Granite Grassland is currently listed as Critically Endangered with 10% statutorily conserved. The conservation target of 27% cannot be met as only about 10% of this unit remains in a natural state. The major land transformation is due to silviculture and to a much lesser degree to cultivation and urban development. Erosion potential is very low (7%), low (88%) and moderate (5%). Frequent alien plants include *Acacia mearnsii*, *A. dealbata*, *Prunus serotina*, *Pinus patula*, *Eucalyptus* sp., *Lilium formosanum*, *Agrimonia procera* and *Solanum mauritianum.* The vegetation is subject to bush encroachment (from both scrub forest and sour bushveld) exacerbated by exclusion of fire.

1. Northern Mistbelt Forest
2. Transitional vegetation
3. Developed areas
4. Exotic woodland

Figure 3.4: Map indicating the different vegetation units in the survey area namely (1) Northern Mistbelt Forest, (2) Transitional vegetation, (3) Developed areas and (4) Exotic woodland.

1). Northern Mistbelt Forest

This vegetation unit is comprised of tall evergreen forest that occurs in the lower lying river valley located in the northern portion of the survey area. Northern Mistbelt Forest has proliferated in this area due to (1) its proximity to the Politsi river and its feeder streams and (2) human induced protection from fire. Although this unit has proliferated due to human induced protection from fire, anthropogenic disturbance is evident. It has been interrupted by (1) the establishment of roads and other agricultural infrastructure, (2) the planting

of avocado orchards, (3) active landscaping and (4) the building of tourist and residential infrastructure. Two nationally protected tree species were identified in this unit (Table 1). A third nationally protected tree species, namely *Podocarpus falcatus*, has been planted in this unit. This species is however not native to the survey area. A small portion of Mistbelt Forest (approx. 1950m2) was cleared for the development of a cottage.

2). Transitional Vegetation

This vegetation unit was formerly comprised of Woodbush Granite Grassland. Due to its proximity to *Pinus patula* and *Eucalyptus* sp. plantations, a concerted effort has been made to prevent natural fires from burning through this unit. This has facilitated the transition of Woodbush Granite Grassland to vegetation resembling subtropical moist thicket and includes elements of Northern Mistbelt Forest and Tzaneen Sour Bushveld. Although large patches of granite grassland persisted in this unit until as recently as the late 1990s, very few of these elements remain. The restoration of this unit back to Woodbush Granite Grassland will require the reestablishment of natural fire regimes. This will be particularly challenging as fires will be difficult to control in this unit considering its steep gradient, the absence of road infrastructure and its proximity to areas where forestry is still practised. This unit is a mosaic of three vegetation types and has particularly high species richness. No plant species of conservation concern were observed.

3). Developed Areas

Good rainfall, good soils and gentle slops adjacent to the Politsi River have facilitated agricultural development on the northern boundary of the survey area. Almost all economic activities take place within this unit that occupies just 6% of the entire site. Most of unit 3 is comprised of avocado orchards, but there is also residential, tourism and agricultural infrastructure, as well as a carpentry workshop. This is the only portion of the survey area with a well-developed road network. Most of the vegetation is comprised if planted orchards and landscaped areas but some natural elements do remain. Landowners have actively tried to prevent alien invasive species from proliferating in this unit. Apart from a few yellowwoods that were actively planted, no plant species of conservation concern were observed in unit 3.

4). Exotic Woodland

The highest point in the survey area is located on its south-western boundary. This unit is located adjacent to forestry plantations and has become invaded by exotic trees, predominantly *Eucalyptus camuldensis* and *Pinus patula.* Although some natural vegetation does remain, these natural elements are likely to disappear if no action is taken to cut down the exotic woodland. This vegetation unit is likely to spread further into unit two. The absence of fire in the survey area has further facilitated the spread of exotic tree species. Very little natural vegetation remains and no plant species of conservation concern were observed in this unit. This unit currently has **low conservation value** and requires urgent rehabilitation.

<u>Fauna</u>

The majority of the Farm portions have been left in a natural state and are likely to be good habitat for a number of faunal species. The farm has is not fenced and therefor the movement of larger game is not restricted which likely means that the farm portions serve as foraging sites for some herbivore species. The forested areas are likely utilized by a large range of birds within the gallery forest on the farm.

Invertebrates

No specific invertebrate survey was completed for the project. A list of invertebrates most likely found on the farm was compiled and is contained in the attached ecological report (Appendix D).

8.3.2. *Impacts*

During the construction of the Daughter's House and the Coral Tree Camp approximately 0.4 hectares of indigenous vegetation was cleared. The destruction of the indigenous vegetation would have also corresponded in the loss of habitat in this area, as well as contributing to habitat fragmentation. The disturbance may have also contributed to the spread of alien vegetation.

During the operational phase, the presence and activities of people likely causes some disturbance (to a small extent) to the foraging or breeding activities of fauna, but this is considered to be negligible in the context of larger-scale activities such as agriculture in the area. Ecological impacts of continued operation are expected to be of negligible significance.

Table 8.13: Terrestrial ecological impacts

IMPACTS LIKELY EXPERIENCED DURING CONSTRUCTION PHASE						
Potential impact	**Status**	**Extent**	**Duration**	**Magnitude**	**Likelihood**	**Significance**
Habitat destruction and fragmentation	Negative	Local	Long term	Low	Definite	Low
Disruption of the activities of fauna on and around the site due to e.g. noise or vibrations	Negative	Local	Short term	Low	Possible	Very low
OPERATIONAL PHASE						
Possible further bush encroachment by indigenous trees due to disturbance of natural vegetation and increased fire intervals	Negative	Local	Long term	Low	Possible	Very low
Spread of alien vegetation through disturbance of site	Negative	Local	Long term	Low	Possible	Low
Habitat destruction and fragmentation.	Negative	Local	Long term	Low	Definite	Low

9. RECEIVING ENVIRONMENT: SOCIO-ECONOMIC ASPECTS

9.1. Heritage

A Heritage Impact Assessment (HIA) was undertaken by Shasa Heritage Consultants in June 2017 in order to determine if any heritage remains are located on the site. The site was examined for the presence of archaeological and historical sites and features, graves and places of religious and cultural significance.

No heritage remains were recorded on the site and the specialist had no objections to the developments, and therefore no mitigation action is required.

9.1.1. *Methodology*

A pedestrian survey of the areas impacted by the project was undertaken, during which standard methods of observation were applied. The area was carefully covered and traversed, and special attention was given to those areas displaying soils and or vegetation changes. As most archaeological material occurs in single or multiple stratified layers beneath the soil surface, special attention was given to disturbances, both man-made such as roads and clearings, as well as those made by natural agents such as burrowing animals and erosion.

The scoping survey was thorough, but limitations were experienced due to the fact that archaeological sites are subterranean and only visible when disturbed. The area has already been developed, thus the area and those surrounding the development were checked for possible heritage remains.

The significance of archaeological sites is ranked into the following categories.

- No significance: sites that do not require mitigation.
- Low significance: sites, which *may* require mitigation.
- Medium significance: sites, which require mitigation.
- High significance: sites, which must not be disturbed at all.

The significance of an archaeological site is based on the amount of deposit, the integrity of the context, the kind of deposit and the potential to help answer present research questions. Historical structures are defined by Section 34 of the National Heritage Resources Act, 1999, while other historical and cultural significant sites, places and features, are generally determined by community preferences.

A crucial aspect in determining the significance and protection status of a heritage resource is often whether or not the sustainable social and economic benefits of a proposed development outweigh the conservation issues at stake. Many aspects must be taken into consideration when determining significance, such as rarity, national significance, scientific importance, cultural and religious significance, and not least, community preferences. When, for whatever reason the protection of a heritage site is not deemed necessary or practical, its research potential must be assessed and mitigated in order to gain data / information which would otherwise be lost. Such sites must be adequately recorded and sampled before being destroyed. These are generally sites graded as of low or medium significance.

9.1.2. *Results*

In a report by Prof Louis Changuion, in December 2008, he mentions the following points, the report is more in depth than the points listed below. Historically, the area was first used by people of European descent in around 1838 as a way to pass through the mountains to the Lowveld. In the 1860's the area was used to obtain wood for the development of towns such a Polokwane. Thereafter a gold rush ensued during the 1870's. Now the town of Haenertsburg is mainly a tourist attraction with farming in the greater area.

In the wider area, Stone Age Rock art exists in the Wolkberg, approximately 50km from the current development area.

The Mamabolo people also established early settlements on land south and west of the development area- also approximately 50km away.

According to SAHRA website, CaseID 612: Proposed township establishment and associated infrastructure on Portion 2 of the farm Cooyong 1100-LS at Haenertsburg, Limpopo Province. No heritage materials were recorded during survey.

Not listed on the website is the surveys that took place when the area south of Haenertsburg was earmarked for possible diamond mining. Surveys in this area- 30km from the development area currently under survey, was found to have mining adits. No evidents of adits was found on the development area currently being surveyed.

Archaeologically, Huffman (2007) designates the following facies to possibly be present in the area:

Urewe Tradition: Kwale branch-	Silver Leaves *facies*	AD 280-450	(Early Iron Age)
	Mzonjani facies	AD 450 – 750	(Early Iron Age)
Moloko branch-	*Icon facies*	AD 1300 – 1500	(Late Iron Age)
Kalundu Tradition: Happy Rest sub-branch -	*Doornkop facies*	AD 750 – 1000	(Early Iron Age)
	Letaba facies	AD 1600 – 1840	(Late Iron Age)

No remains from the Stone Age, Iron Age or Historical Period were recorded on site. No places designated to spiritual or social gatherings or graves were recorded.

9.1.3. *Impacts*

As no sites or objects of heritage-related significance were found onsite, it is expected that no impacts were caused by construction, and no impacts are anticipated to be associated with continued operation. The archaeologist indicated that, from a heritage resources management point of view, they have no objection with regard to the development.

Should any previously undetected subterranean heritage remains however be found on site, this must be reported to the Limpopo Heritage Resources Agency (LIHRA) or South African Heritage Resources Agency (SAHRA), or the archaeologist, and may require further mitigation measures.

Table 9.1: No heritage-related impacts are anticipated to be associated with the project, as no sites or objects of heritage significance were detected during the HIA.

IMPACTS LIKELY EXPERIENCED DURING CONSTRUCTION PHASE						
Potential impact	**Status**	**Extent**	**Duration**	**Magnitude**	**Likelihood**	**Significance**
None expected						
OPERATIONAL PHASE						
None expected						

9.2. Air Quality

9.2.1. *Status quo*

The local air quality on the site is impacted by the dust and exhaust emission from vehicles that utilize the gravel access road. Air quality impacts from exhaust emissions from vehicles using the R71 provincial route are also likely to affect the farm and are likely more significant than the air quality impacts caused by the very small number of vehicles driving / operating on the farm. Further air quality impacts from the spraying of agricultural chemicals on cultivated avocado crops will be experienced on the farm. These impacts that occur within the farms boundary are expected to be very low in magnitude and significance.

9.2.2. *Impacts*

Air quality impacts during the construction phase likely comprised a very small amount of airborne dust and exhaust emissions associated with construction vehicles and machinery, vegetation clearance and earthworks.

Operational phase impacts consist of exhaust emissions and dust (from the gravel road) of vehicles travelling to and from the site, but this is negligible in extent due to the very small volume of traffic to and from the facilities.

Table 9.2: Air quality impacts that may be associated with the project

IMPACTS LIKELY EXPERIENCED DURING CONSTRUCTION PHASE						
Potential impact	**Status**	**Extent**	**Duration**	**Magnitude**	**Likelihood**	**Significance**
Airborne dust and exhaust emissions from construction vehicles and machinery	Negative	Local	Short term	Negligible	Definite	Negligible
OPERATIONAL PHASE						
Airborne dust and exhaust emissions from vehicles used on the farm and entering it via the access route	Negative	Local	Long term	Negligible	Definite	Negligible

9.3. Socio-Economic Aspects

Information was sourced from the Greater Tzaneen Municipality (GTM) 2016 - 2021 Integrated Development Plan (IDP) as well as the Final GTM Integrated Development Plan for 2014/2015.

9.3.1. *Location*

The GTM falls within the Mopani District Municipality and covers an area of roughly 3 240km^2. Extending from Haenertsburg in the West to Rubbervale in the east (a distance of 85 km), and from just south of Modjadjiskloof in the North to Trichardtsdal in the south (47 km).

The Greater Tzaneen Municipality consists of the following proclaimed towns: Tzaneen, Lenyenye, Letsitele, Nkowankowa and Haenertsburg together with 125 rural villages. Nested within this area are 35 wards. The project site is located in ward 14

9.3.2. *Population*

According to statistics published in the South African Statistics Census of 2011, the GTM population increased from 375 588 (2001 census) to 390 092 (2011 census), an increase of 14 504 people. 40% of the municipal inhabitants are between the ages of 14-35. Females outnumber males in the municipality and comprise of 53% of the population (GTM IDP 2016—2021). According to the 2014/2015 IDP 92.7% of the population speaks an African Language, a further 2.6% of the population speaks Afrikaans and the remainder are English, other or use sign language. A Community Survey completed in 2016 concluded that the Municipalities population now stands at 416 488 which indicates that the population increased by 26 393 people (GTM IDP 2017-2018).

9.3.3. *Income, employment and education*

Employment statistics within the Greater Tzaneen Municipality are worrying as the majority of the households comprise of unemployed people or individuals who are discouraged job seekers and not economically active, 41% of the municipalities members do not have a source of income. A further 45% of the of individuals within the municipality earn an income that is below minimum living standards requirements, that is R 9 600 per annum or lower that R 1 600 per month as defined by Statistics South Africa.

If one looks at the education statistics of the municipality it paints a poor picture. Only a fraction of individuals who have matriculated further their educations after school. Perhaps even more worrying is the number of individuals who do not reach matric and the numbers of people who drop out before entering high school. Another troubling statistic is the number of municipality members who have no formal schooling.

Access to higher education centres remains a challenge both locally and Nationally and as it is a priority for the Municipality inroads should be made in the near future to mitigate these circumstances (GTM IDP 2016-2021). Schools are needed, both Primary or Secondary or both, in most of the municipalities wards.

9.3.4. *Economic activities and opportunities*

The GTM has a dualistic economy which comprises of a large highly developed commercial sector which exists alongside an informal subsistence sector (GTM SDF, 2009). Most opportunities exist in the Agro-processing and tourism sectors where the municipality wishes to develop the local populations skills so it may gain further competitive advantage over other municipalities in the district and that the employability of economically active persons is increased.

Agriculture in the GTM, generates the majority of the districts agricultural GDP where it accounts for the 43%. Fertile land with a large labour base, local farming expertise and a sub-tropical climate favour primary production of various agricultural products. It also constitutes the main employment sector for uneducated, unskilled and mostly poor municipal members, this sector provides a lifeline to much of the population in

the GTM. Agro-processing opportunities exist as a lot of the fresh produce produced here are sent to JHB only to be sold back to the area in a processed form to large chain stores.

The municipal area and particularly the project area have tremendous potential for tourism growth due to the natural and heritage potential. The Great North-eastern Escarpment has tremendous beauty and some of the largest North-Eastern Mist belt forest patches left in Limpopo are located near the project location. Vast areas, which are within driving distance of the project location, have been proclaimed as Nature Reserves and Wilderness areas and house endemic fauna and flora which are unique to the Wolkberg Centre of Endemism. Unfortunately, the IDP has identified that the performance of the trade sector, including catering and accommodation, has shown slow growth rates which is sad considering the vast opportunities and wealth of activities which can be conducted in the general area. The 2017-2018 IDP specifically identifies the need for tourism facilities around Ebenezer and Magoebaskloof and makes mention to the Tzaneen Dam Tourism potential on a number of accessions.

9.3.5. *Infrastructure and services*

Water: The 2017-2018 IDP for the Greater Tzaneen municipality indicates that the lack of water and electricity within the municipality are a challenge and have become municipal priorities (GTM IDP, 2017-2018). The GTM receives their water from the MDM who has been assigned as the Water Service Authority. Water quality monitoring is needed as water that is unsafe for human consumption within the municipality poses a serious risk of waterborne diseases to infants and young children, the elderly and to those individuals with immune systems that have been compromised while living in unsanitary conditions.

Most of the water (41%) for the inhabitants of the GTM is provided by regional and local water use schemes which are operated by either the municipalities or by water service providers e.g. Lepelle Northern Water. A further 18.8% of the inhabitants use boreholes to get water while another 11% on the local community use Dams, Pools, and stagnant water as their source of water. The remainder of the water which is used is taken from springs, rain water tanks, water vendors, water tankers and “other” sources.

Sanitation: A number of challenges are currently facing the GTM with regard to sanitation that primarily stem from the restricted size of wastewater works which are unable to cater for the rapid increase in households that need to be connected which has resulted in a huge backlog against small allocations which has further been exacerbated by the construction of a large number of RDP houses without VIP’s or sanitation. Furthermore, there has been an increase in households which also need services in areas where no services exist.

Electricity: GTM is one of the largest non-Eskom distributors (in terms of distribution area) in the country (3500 km^2). The distribution area does not correspond to the municipalities distribution area. The main differences are that Eskom distributes electricity to the areas of Nkowankowa, Lenyenye and southern most area of the GTM and the second difference is that the Letsitele, Eiland and Gravelotte areas which form part of the Ba-Phalaborwa Local Municipality are currently being serviced by the GTM.

Much of the electrical infrastructure is older than 25 years and exceeds the life expectancy of the cables, especially since most of these cables are operation at more than their 100% capacity and both rural and urban networks need urgent attention. The IDP 207-2018 suggests that the system has deteriorated to

unacceptable levels and will ultimately cause a total and imminent collapse of some parts of the network unless drastic and immediate intervention is undertaken.

Housing: The provisioning of housing remains the function of the Provincial Department of Cooperative Governance, Human Settlement and Traditional Affairs while the role of the municipality is to coordinate the identification of sites, beneficiaries and monitoring of the construction processes. A total of 12 960 units have been built to date, however, a backlog of 12 590 still exists according to the municipal housing database.

Health care: According to the 2014/2015 Draft IDP there are 29 clinics, 4 health centres and 165 visiting points within the municipal area. Of the 165 visiting points only 16 have functioning structures, with the rest of the visiting points being community centres, day-care centres, farms or even just designated trees.

Transport: The planning capacity of the Municipality is impaired as there is currently no inventory/data base that can accurately identify and profile upgrading and maintenance needs as and when required. The road network of the GTM consists of approximately 2 300 km (< 200 km surfaced tar and > 2100 km of gravel/ dirt roads). The maintenance of gravel and dirt roads are placing an enormous burden on the GTM's maintenance budget, as almost 94% of the road infrastructure are gravel or dirt.

Waste management: It is the mandate of the GTM to provide all households with basic waste removal services to protect the environment from degradation which will negatively affect future and present generation. Monitoring is done to ensure waste collection, storage, transportation and disposal are completed using the approved methods. GTM has developed a rural waste minimization programme where schools have been identified as waste Drop Off Centres. Local communities collect and drop their waste off at these locations from which it is sorted disposed and recycled accordingly.

9.3.6. *Impacts*

The following **short-term** socio-economic impacts may have been experienced during the construction phase of the proposed project:

- Support of local job opportunities through support of local businesses in the procurement of materials, equipment and services used in the construction phase;
- Visual impact.

Long-term socio-economic impacts during the operational phase may relate to the following:

- Support of local job opportunities through support of local businesses in the procurement of products and services used at the tourist facilities;
- Increased number of tourists visiting the area and spending money at local tourist attractions, restaurants, etc, with associated positive impacts for local economic development and supporting of jobs in the hospitality sector. The GTM IDP 2017/20 highlights the need for more tourism opportunities and facilities in the Magoebaskloof, Haenertsburg and Tzaneen area.

Table 9.3: Socio-economic impacts

IMPACTS LIKELY EXPERIENCED DURING CONSTRUCTION PHASE						
Potential impact	**Status**	**Extent**	**Duration**	**Magnitude**	**Likelihood**	**Significance**
Supporting local businesses and associated employment through local procurement of materials, equipment & services	Positive	Local	Short term	Very low	Highly probable	Negligible
Possible increase in criminal activity and/or rowdiness	Negative	Local	Short term	Unknown	Possible	Negligible
OPERATIONAL PHASE						
Direct and indirect job creation	Positive	Local	Long term	Low	Definite	Low
Contribution to local economy and local economic development	Positive	Local	Long term	Low	Highly probable	Low
Promoting local tourism and possible knock on effects to other industries due to increased number of visitors	Positive	Local	Long term	Low	Highly probable	Low

9.4. Traffic and Access

9.4.1. *Status quo*

The property has a gravel access road that links the property to the R71 (Magoebaskloof road linking Tzaneen and Polokwane). The access road is shared with a number of other farms situated along this road. No new access road nor upgrading of the existing road was or is required.

9.4.2. *Impacts*

During construction, there may have been slight traffic disruptions due to heavy vehicles carrying construction materials or machinery, particularly on the gravel access road from the R71.

Operational phase: The facilities have led to a slight increase in traffic on the access route as guests to the tourist accommodation will use it to go to and from the site, and the applicant's daughter and her family enter and exit the property to and from their house. These impacts are unlikely to disrupt traffic or lead to congestion, or to damage the access road significantly.

Table 9.4: Traffic impacts

IMPACTS LIKELY EXPERIENCED DURING CONSTRUCTION PHASE						
Potential impact	**Status**	**Extent**	**Duration**	**Magnitude**	**Likelihood**	**Significance**
Traffic disruption by heavy machinery and construction vehicles	Negative	Local	Short term	Negligible	Possible	Negligible
OPERATIONAL PHASE						
Increase in traffic on the access route	Negative	Local	Short term	Very low	Definite	Negligible

9.5. Visual Aspects

9.5.1. *Status quo*

Prior to the construction of the Herb Cottage (1998), Coral Tree Camp (2014) and the Daughter's House (2016) the areas were this infrastructure are now located was covered by indigenous vegetation. After the construction and expansion of the Coral Tree Camp foundations and infrastructure and the construction of the Daughter's House foundation and infrastructure, development scars in the form of bare recently worked soil can be seen on the slopes of Magoebaskloof from the R71 road. The development scars are not highly visible, but they can be seen from the R71 and do present a negative visual impact amongst the natural vegetation, but at a very small scale.

It must be noted that extensive rehabilitation in the form of revegetation and stabilisation is already occurring and it is anticipated that in future these locations will reflect other natural areas of vegetation nearby. Although the infrastructure will remain standing the growth of the planted vegetation, which is all indigenous, should minimize the visual impacts of the sites from the R71.

Table 9.5: Visual impacts

IMPACTS LIKELY EXPERIENCED DURING CONSTRUCTION PHASE						
Potential impact	**Status**	**Extent**	**Duration**	**Magnitude**	**Likelihood**	**Significance**
Replacement of natural vegetation with buildings and gardens	Negative	Local	Long term	Very low	Definite	Very low
OPERATIONAL PHASE						
Replacement of natural vegetation with buildings and gardens	Negative	Local	Long term	Very low	Definite	Very low

9.6. Noise

9.6.1. *Status quo*

The site is situated approximately 1km from the R71 provincial route. Its proximity to the R71 road means that a constant background "buzz" of traffic is heard from the project location, albeit at a low volume. Activities directly surrounding the site relate mostly to agriculture and hence very little noise is generated in the area apart from the road. Although the infrastructure is located near the road the ambient noise levels around the property are still low. Noise on the property is associated with the few vehicles used on the farm as well as the voices of residents and visitors/tourists to the property.

9.6.2. *Potential impacts*

Noise during the construction phase likely related mostly to heavy vehicles and machinery, off-loading of materials such as bricks, and the voices of workers. These impacts are no longer experienced, as the construction phase has already been completed.

The noise associated with the slight increase in vehicles and people on the farm is not expected to increase the ambient noise of the area and as no sensitive noise receptors are located near the farm these impacts should be considered to be negligible, as long as mitigation measures contained in the EMPR are adhered to (e.g. prohibiting the playing of loud music at late hours).

Table 9.6: Impacts in terms of noise

IMPACTS LIKELY EXPERIENCED DURING CONSTRUCTION PHASE						
Potential impact	**Status**	**Extent**	**Duration**	**Magnitude**	**Likelihood**	**Significance**
Noise associated with construction activities and heavy vehicles during construction	Negative	Local	Short term	Low	Already occurred	Very low
OPERATIONAL PHASE						
Increased noise associated with tourist vehicles, voices or music	Negative	Local	Short term	Very low	Definite	Very low

10. IMPACT STATEMENT

The following tables present a summary of the bio-physical and socio-economic impacts that likely occurred during construction and are anticipated to occur during the operational phase.

These tables are a summary of the impacts which are discussed in more detail in the preceding chapters.

Table 10.1: Impacts that may have been associated with the construction phase.

	POTENTIAL IMPACT	STATUS	EXTENT	DURATION	MAGNITUDE	LIKELIHOOD	SIGNIFICANCE
	Bio physical aspects						
Climate	Cleared areas may have been more susceptible to land-slides and/or soil erosion in heavy rainfall events.	Negative	Local	Short term	Medium	Possible	Low
Topography, Hydrology, Wetlands, Soils and Geology	Risk of soil contamination by e.g. sewage generated onsite, cement, diesel	Negative	Local	Short term	Very low	Possible	Very low
	Cleared areas may have been more susceptible to land-slides and/or soil erosion in heavy rainfall events.	Negative	Local	Short term	Medium	Possible	Low
Terrestrial ecology	Habitat destruction and fragmentation	Negative	Local	Long term	Low	Definite	Low
	Disruption of the activities of fauna on and around the site due to e.g. noise or vibrations	Negative	Local	Short term	Low	Possible	Very low
Socio-Economic Aspects							
Heritage	None						
Air Quality	Airborne dust and exhaust emissions from construction vehicles and machinery	Negative	Local	Short term	Negligible	Definite	Negligible
Socio-Economic Aspects	Supporting local businesses and associated employment through local procurement of materials, equipment & services	Positive	Local	Short term	Very low	Highly probable	Negligible
	Possible increase in criminal activity and/or rowdiness	Negative	Local	Short term	Unknown	Possible	Negligible
Traffic	Traffic disruption by heavy machinery and construction vehicles	Negative	Local	Short term	Negligible	Possible	Negligible
Visual	Replacement of natural vegetation with buildings and gardens	Negative	Local	Long term	Very low	Definite	Very low
Noise	Noise associated with construction activities and heavy vehicles during construction	Negative	Local	Short term	Low	Already occurred	Very low

Table 10.2: Impacts that may be associated with continued operation of the facilities.

	POTENTIAL IMPACT	STATUS	EXTENT	DURATION	MAGNITUDE	LIKELIHOOD	SIGNIFICANCE
	Bio physical aspects						
Climate	Bare slopes where construction has taken place may be more susceptible to land-slides in heavy rainfall events.	Negative	Local	Short term	Medium	Possible	Low
	Increased soil erosion in bare areas and associated siltation of the nearby streams	Negative	Local	Long term	Low	Possible	Very low
Topography, Hydrology, Wetlands, Soils and Geology	Bare slopes where construction has taken place may be more susceptible to land-slides in heavy rainfall events.	Negative	Local	Short term	Medium	Possible	Low
	Increased soil erosion in bare areas and associated siltation of the nearby streams	Negative	Local	Long term	Low	Possible	Very low
	Impedance of surface and groundwater flow by soil compaction and construction of buildings	Negative	Local	Long term	Very low	Highly probable	Very low
	Possible surface water or groundwater contamination by sewerage from dwelling and tourist accommodation	Negative	Local to sub-regional	Long term	Low	Possible	Low
Terrestrial ecology	Possible further bush encroachment by indigenous trees due to disturbance of natural vegetation and increased fire intervals	Negative	Local	Long term	Low	Possible	Very low
	Spread of alien vegetation through disturbance of site	Negative	Local	Long term	Low	Possible	Low
	Habitat destruction and fragmentation.	Negative	Local	Long term	Low	Definite	Low
Socio-Economic Aspects							
Heritage	None expected						
Air Quality	Airborne dust and exhaust emissions from vehicles used on the farm and entering it via the access route	Negative	Local	Long term	Negligible	Definite	Negligible

Socio-Economic Aspects	Direct and indirect job creation	Positive	Local	Long term	Low	Definite	Low
	Contribution to local economy and local economic development	Positive	Local	Long term	Low	Highly probable	Low
	Promoting local tourism and possible knock on effects to other industries due to increased number of visitors	Positive	Local	Long term	Low	Highly probable	Low
Traffic	Increase in traffic on the access route	Negative	Local	Short term	Very low	Definite	Negligible
Visual	Replacement of natural vegetation with buildings and gardens	Negative	Local	Long term	Very low	Definite	Very low
Noise	Increased noise associated with tourist vehicles, voices or music	Negative	Local	Short term	Very low	Definite	Very low

11. PUBLIC PARTICIPATION

11.1.1. *Public comment periods*

The initial 30-day public comment period ran from 28 April to 30 May 2017, during which stakeholders and the general public had the opportunity to register as Interested and/or Affected Parties (I&APs) and to submit to Polygon Environmental Planning any comments, queries or concerns which they might have with regards to the project and/or the environmental rectification application process.

The comment period was advertised in English and SePedi by means of the following (please refer to proof of advertisement under Appendix F of this report):

- Newspaper advertisement published on 28 April 2017 in the Letaba Herald;
- Two site notices erected at highly visible points near the site;
- Notices sent directly to identified I&APs by means of fax, e-mail and/or post.

The second public comment period, during which I&APs could review and comment on the consultative EIAR, ran from 25 August to 26 September 2017. This comment period was advertised in English and SePedi as follows:

- Newspaper advertisement published on 28 April 2017 in the Letaba Herald;
- Two site notices erected at highly visible points near the site;
- Notices sent directly to registered I&APs by means of fax, e-mail and/or post.

Copies of the report were also submitted to the following stakeholders for their comment: DWS, LDEDET, Greater Tzaneen Municipality and the South African Heritage Resources Agency (SAHRA). Copies were available for public review onsite and at Polygon's offices in Tzaneen, and electronic copies were available from Polygon upon request during the comment period.

11.1.2. *Comments received*

Comments have related mostly to the need for the project not to impact on surface water quality, and prevention of mudslides. Please refer to Appendix E for copies of the comments received and the responses provided.

12. IMPACT MITIGATION AND MONITORING

Please refer to the attached EMPR, which contains measures for the prevention, mitigation and/or monitoring of impacts related to the project.

13. CONCLUSIONS AND RECOMMENDATIONS

It is recommended that **rectification and environmental authorisation be granted** to the applicant, Elspeth Humphreys, for the clearance of indigenous vegetation as well as for current tourist accommodation facilities and future conversion of an existing dwelling to tourist accommodation, as described in this report.

It is recommended that the following conditions be included in the authorisation:

- No additional clearance of indigenous vegetation triggering the thresholds contained in the EIA Regulations may take place;
- Should any deviations from the current specifications and designs be contemplated, such changes must be communicated to LDEDET and it must be determined whether the changes are allowed in terms of the EA;
- The impact mitigation measures contained in the EMPR accompanying this report must be implemented in order to minimize and/or mitigate environmental impacts henceforth;
- Conditions that may be set by LDEDET in terms of the EA must be adhered to. If it is found that it will not be possible to adhere to certain conditions, this must be communicated to LDEDET ahead of time to prevent a non-compliant situation;
- Should any additional activities listed in terms of the EIA Regulations be planned on the site, the appropriate application(s) for authorisation must be lodged with the relevant authority.

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